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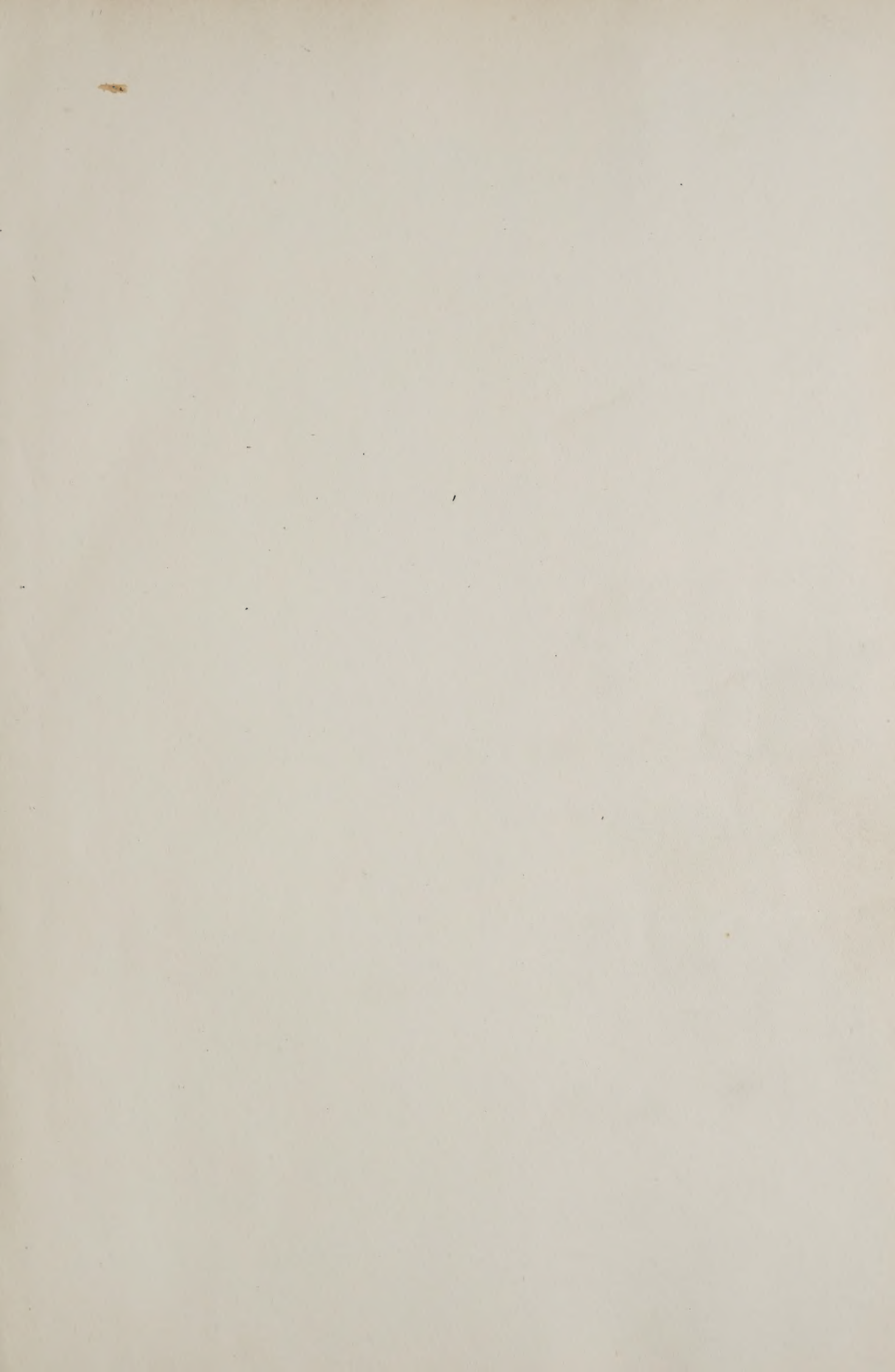
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THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS

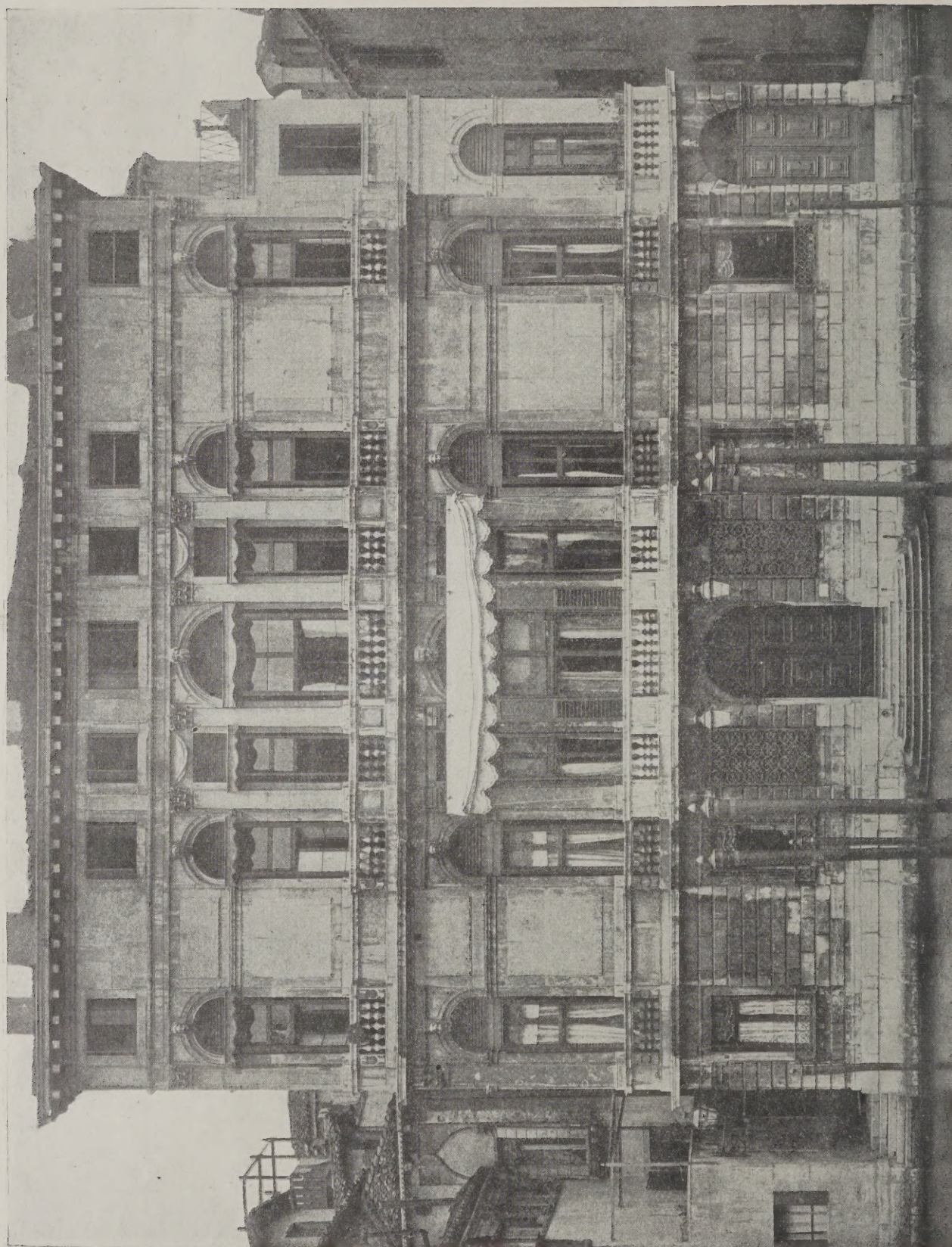
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BASILICA OF ST. JOHN LATERAN, ROME.

(From an engraving by Giovanni Acqueroni.)



PALAZZO GIUSTINIANI, ON THE GRAND CANAL, VENICE.

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THE ARCHITECTS' JOURNAL

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Joint Editors: A. E. RICHARDSON, F.R.I.B.A., and J. FINDLAY McRAE.

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Wednesday, July 2, 1919

Volume L. No. 1278

The Classic Spirit and Tradition

"The advance of the human intellect is measured by successive points of contact with the Greek spirit—in Rome before the birth of Christ; in Islam during the exhaustion of the Roman Empire; in the schools of Paris and Seville during the Middle Ages when Averrhoes and Aristotle kept alive the lamp of science; in Italy at the period of the Renaissance, when Greek philosophy and poetry and art restored life to the senses, confidence to the reason, and freedom to the soul of man. All civilised nations, in all that concerns the activity of the intellect, are colonies of Hellas."—JOHN ADDINGTON SYMONDS.

HERE is a possibility besetting all traditions, that they may become merely conventions—something agreed upon. And every such agreement arrived at by the ages through whose hands tradition has passed is of the nature of a compromise, as all agreements must be, with the result that forms express less and less clearly the spirit that moulded them. It is well, then, that one should from time to time go back to the source of these traditions and inquire for the true interpretations of them—the nature of that spirit which they claim to present.

The Classic tradition in architecture has persistently followed in the track of civilisation, sharing her fortunes and shaping itself to her conditions. But the essentials remain the same, the essentials that are embodied in monumental architecture. The term monumental usually implies something that causes thought or reflection, and we use it in an architectural sense when we are presented with a creative effort which is itself striking, or which worthily recalls to us a memorable event. A place may express the splendour of an Empire, a shrine the dignity of a god, a tomb the memory of a fallen hero. Whether a simple monolith, an octostyle temple, or the Mausoleum of a Carian King, the element of arrest is here, the single note, the challenge to the beholder. It is this note, this singleness of purpose and the avoidance of all that is redundant in the expression of it, that characterises the art of the Greeks, and is pre-eminently true in their monuments.

Great nations had raised monuments previous to the Greeks. Those of Egypt, Assyria, and Persia were monous. But neither did these nations possess the Greek freedom in expression nor were the ideas they sought to express world-pervading ideas. They stand as an example of just those of whom it behoves us to beware, peoples who were mastered by convention, both in the main of ideas and in the field of expression. It is the emesis of age. But the Greeks looked upon the world through the eyes of youth—"young-eyed, young-limbed mortal children." A universe whose mystery had overwhelmed their predecessors aroused in them wonder and curiosity, and they sought to devise forms in which to express their wonder. They taught children of nature, its clear full notes and them with joy, its deeper tones with awe. To the one their warm Ionian blood made them readily responsive, while their sterner Doric strain acknowledged life's graver issues. Piety, physical well-being, respect for law, a quick appreciation of beauty in all its forms—these were qualities desired by the individual, attainments that he held at the disposal of the State, while the State itself was a conception embodied in their religion.

The act of dedication indeed may be claimed as the basis of Greek life, and a monumental incentive to have been always present, one which sought and found a range of expression that is unrivalled in architecture, sculpture, and drama. Dignity of purpose, vigour and order of arrangement, and simplicity of style, these qualities were manifested in all. They were thus naturally allied, an alliance fostered and maintained by the religious festival.

The religion of the Greeks, what it included and implied, cannot here be discussed at length, yet it entered so completely into Greek art that something of its character should be understood. It forbade an organised priesthood, and it never became a co-ordinated system. The chief officer was chosen by lot from among the citizens. The gods represented the higher efforts of man; drawing their significance originally from nature, they developed in the imagination of poets and the common people. Thus Apollo, the most important of the Olympians after his father, Zeus, while he stood in the first place for the light and warmth of the sun developed into the bestower of spiritual insight, progress, and civilisation. What religious feeling did for Greek art was this: it introduced emotion, a high emotion; and ideas touched by emotion underlie the expression of all great art.

If the alliance between the arts was a close one, it was particularly so in the case of architecture and sculpture. The former might claim precedence or it might but contribute the shrine which held something even more compelling in its claims upon the worshipper, as at Elis, where reposed the Pheidias statue of Zeus, upon whose face when the weary man looked he forgot all his cares. One must recognise that here was the culminating effort, the supreme display of monumental genius.

The sense of restraint, and the economy of means which were so characteristic of the Greek, have been and may be sufficient to render architecture independent of the assistance of sculpture. But the human interest which it introduces and its play of contour, in distinction to the formal architectural line, is an acquisition that claims consideration. Moreover, it has the means of emphasising the monumental intention. Thus the pedimental groups and frieze of the Parthenon at once declare the subject of its dedication. Where employed, however, it was handled with a masterful knowledge of its relation to the position in which it was placed, and its display of action was subjected to definite law.

A distinction was made, and it is worth while to note it, since all the arts were affected, between the expressions of *ethos* and of *pathos*, the one denoting the supremacy of the higher ethical qualities, the other the more superficial

and emotional. When the finest period of art was passed the latter characteristic became evident, and architecture suffered with it. Ionian influence became more predominant and the Doric restraint less in evidence. And this increased as the centre of Greek life more and more identified itself with the great cities of Asia Minor, like Miletus and Ephesus. After the conquests of Alexander, the East became the theatre of all further development, and it was from this quarter, and the Greek colonies of Southern Italy, that Rome absorbed the Greek traditions that fulfilled her needs. In the East, architecture was in touch with the old Empires of Assyria and Persia. Hitherto it was the column and architrave, trabeated construction, which the Greek genius had developed, upon which it had chiefly relied for monumental effect. But these older civilisations had perfected the architecture of the wall, and its scientific construction in relation to stability and resistance of weather was understood and regarded.

The principles of the wall were evolved, with the consequence that architectural treatment was considered separately as a facing. The great altar at Pergamon, a masterly handling of the architectural possibilities of wall building, is among the last of the Greek efforts towards the monumental.

Augustus, it was said, found Rome a city of brick, and

left it a city of marble. To all appearance this may have been so, but it was constructionally a city of concrete. Greek detail in the shape of column, pilasters, and cornices ceased in many cases to be a structural demand. Without venturing too far into the subject of architectural truth, it may be admitted that structural evidences fitly handled make for simplicity and vigour in design. This reticence and simplicity, in which the Greek excelled, was not a characteristic of the Roman manner. But what it lost was in a measure compensated for by breadth in design, to which this new freedom of its parts must have contributed. We cannot but remark the extraordinary facility in the representation of architectural detail shown by the wall painters at Pompeii, unfettered by material considerations. Sculpture was at one period influenced in exactly the same manner. It acquired breadth. And breadth of treatment learned from wall architecture—the covering of surfaces—may be claimed as the contribution Rome made towards monumental architecture, while the ever-growing requirements of its civilisation, its baths, basilicas, aqueducts, and triumphal arches offered unrivalled opportunity. Classic form was wrested from a too jealous parentage and sent forth to make its own way in the world. And it made it by its successful appeal to the imaginative reason of mankind—an appeal that is still gathering strength.

C. J. T.

Notes and Comments

Foreword to Our New Volume.

WITH the present issue of the Journal a new volume is begun, and we have taken the opportunity to effect several changes that we feel confident our readers will agree with us in regarding as improvements.

Pursuing our intention of changing at intervals the illustration on the front page of the wrapper, we have this week introduced a masterly little sketch by Mr. Harold Falkner, whose drawings are always warmly welcomed by architects, not simply because they know that he is of the fraternity, but because they recognise that he has few equals among the architectural draughtsmen of the day.

Coming to the text, it will be noticed that the use of slightly smaller type has been extended, with the obvious aim of giving more matter in the same space—an object that is further served in a minor degree by reducing the disproportionately large white spaces between the columns and slightly increasing the width of column without reducing perceptibly the nicely calculated width of the outer margins.

Thirdly and lastly, we have made a rather drastic change in the method of placing the plates. Their position is altered, but neither their number nor their character. Although they are no longer supplementary, but now form an integral part of the Journal, it will be seen that they are as numerous as before, and that they do not supersede text pages, but are additional to them. The only difference is that the plates are no longer left loose, at the risk of being omitted, misplaced, or dropped out, but are fastened in with the pages, the result being that the Journal can be handled with more comfort than was possible when the reader was constantly haunted by the apprehension that the plates would slip out and scatter themselves over the floor of railway carriage, office, or domestic interior as untidily if not as thickly as leaves strew the brooks in Vallombrosa. When the plates were missing, whether by accident or by intentional removal for storage or for study, the Journal was left incomplete, and, naturally enough, the possessor rather hesitated to bind it or to file it in that state. Now, seeing the infinite pains we take to make the Journal worth keeping, we have been much concerned to hear that the loose plates have in many instances opposed that object, and it is mainly with the intention of avoiding this contingency that we have made a change of which, we are assured, our subscribers will appreciate the intention as well as the effect. But our main object is to remove any possible impression, such as the old arrangement was likely to foster, that the letterpress was secondary to the plates—a mere vehicle for them. This, if it existed, was an utter misconception. Our plates, it is true, are, in subject and treatment, as good as we can make them; but we wish them to be regarded as entirely subsidiary to our determination to maintain the reputation which the Journal has already won as "the Journal for the Profession"—an organ of architectural opinion and information in which the

interests of the profession shall be constantly and competently served in their every phase. To this intention, mere illustrations, however high their merit, must always be subordinate and to this purpose the new arrangement conforms more aptly than the old.

Another advantage of the new arrangement is, we conceive, that instead of being lumped together in a possibly heterogeneous heap, the plates will now be distributed through text-pages with due regard to balance, with a resultant concentration of interest on each individual plate, and without risk of the diversity of subjects rendering them mutually destructive. Thus each plate will gain greatly in interest; and further, though we are always chary of making promises, we are in a position to state that we are prepared to maintain a constant supply of plates that will show progressive improvement on all previous efforts in this kind.

The R.I.B.A. Ballot and Unity of the Profession.

Of the 156 candidates for election to the R.I.B.A. Association, 95 were elected. Thus 32.7 per cent, or near one-third, were rejected, a result that is almost as disconcerting to the friends of the Institute as it can be to the blackballed candidates. To speak with perfect frankness it is not easy to admire either the spirit in which the ballot was claimed or the result it has effected. Indeed, we are not entirely convinced that balloting for membership is sound principle as applied to a professional organisation like the Institute, which, after all, is not an exclusive social club, in which three or four members may conspire to "pill" persons with whom they do not care to associate; and, even if it were, it cannot be lightly assumed that on this or any other ground one-third of the candidates were "undesirables." Nor do we believe that the Institute can afford to reject candidates at this rate. An almost essential condition of the coming universal reconstruction, if that reconstruction is to materialise on truly progressive lines, will be professional solidarity. It is easily conceivable that the Institute, in common with other professional bodies, will see the necessity for a revised constitution in which the conditions of membership will be far less stringent, educational tests for entrance being entirely abolished. On the other hand, educational facilities will be greatly increased but they will be a separate consideration. There will then be no balloting for membership, and no invidious rejections. Every candidate will be admitted by a committee on producing proof of regular pursuit of the profession, and shall by no means be subjected to the humiliation—and, indeed, the injustice—of being blackballed, possibly through the caprice of some arbitrary clique who may be utterly incompetent to assess fitness for membership. This balloting for membership, regarded as reactionary and retrograde, and inimical to the best interests of the Institute, which, if there is any truth in certain current rumours of coming conflict, will need all

ngth it can muster if it is to hold its own against its rival
anisation. But here we must take leave to deprecate such
truggle as that which is being freely prognosticated. It
ld involve a deplorable waste of force on antagonism and
ruption where co-operation and solidarity are so much
ded for that "unity of the profession" which implies so much
architecture as an art as well as in its more material
ses.

Architect and Sheriff.

rather neat coincidence occurs in the election of Mr.
ister Fletcher to the Council of the Royal Institute. Mr.
tcher is Senior Sheriff of the City of London, and is the
t architect to be elected to that honourable office. So the
ours are fairly divided as between Corporation and Insti-
e. He makes history also on the Institute side, for he is
first Sheriff of the City of London to be elected to the
ncil of the Institute. It would be gratifying if this interest-
situation were developed to its logical conclusion of the
architect-Lord Mayor being simultaneously the first Lord-
vor President of the Royal Institute; but, alas! it is only
fairy tales that events work out with this delightful con-
cency. Yet a little while and Sheriff Banister Fletcher may
one or the other; nothing is more certain than that he
not be both simultaneously. No mortal man could carry
stupendous a burden, a so "exceeding weight of glory,"
n if he could succeed in lifting it. But the coincidence is
ciently striking as it stands.

Peace and Prosperity.

t may be safely said that the formal signing of the treaty of
ce on Saturday last implied the inauguration of a new era
the world's history. All thought and all energy will now
e a new direction, and should be definitely devoted to re-

construction, material and other: and with both kinds architects
and builders are most intimately concerned. Our vast
industry, which for more than three years has been almost com-
pletely paralysed in its peace functions, is now convalescent,
and may be expected to gain rapidly in strength and activity.
What we have chiefly to guard against is the danger of relapse
and reaction. There must be no raking up of the old bones
of contention, no revival of the old antagonisms between em-
ployers and employed, no friction of any kind, if the new
machinery of organisation is to run smoothly to high produc-
tive effect. And, of course, this observation applies quite liter-
ally to the machinery of mechanical production, which must
be of the very best, and must be set to work with the highest
degree of intelligence and the most perfectly trained skill; for
it has to overtake a tremendous accumulation of arrears, and to
liquidate an unexampled burden of debt. Harmony and good
will are essential to economic effort; and there is laid upon
architects and builders the twofold moral obligation of setting
a good example by making their own respective organisations
models of efficiency and unity, and, further, of making their
own particular work of building as perfect as may be in design
and construction. They must put their hearts into it.

The Housing Bill in the Lords.

Naturally, the best-informed speech in the House of Lords
debate on the second reading of the Housing and Town-
planning Bill was that of Lord Downham, who, as he reminded
the House, has been very intimately connected with the subject
of housing during the past three years. Either that experience
or the atmosphere he has since breathed in the House of Lords
seems to have made him very pessimistic. He produced what
he himself described as "some wonderful figures," showing
the ruinous cost of mere cottages. "The highest price for a
four-roomed cottage," he moaned, "three bedrooms,
living-room, scullery, bathroom, offices, was £850." Why
did he mention the highest? If there is a highest, presum-
ably there is also a lowest, and perhaps an intermediate.
Also the calculations seem based on obsolete methods of building.
Then £200 was to be added for roads, sewers, etc., bringing
the amount to one thousand and fifty pounds! Then his lordship, still anxious
to make our flesh creep, added rather superfluously that
"if the London County Council were to build 500,000
cottages, costing £1,000 each, that meant that £500,000,000
had to be raised." Exactly. But the figures being hypo-
thetical, their lordships were by no means panic-stricken,
but passed the second reading in optimistic mood.

CITY AND COVNTY OF BRISTOL PROPOSED HOVSING SCHEME. TYPE NO.5.

CUBICAL CONTENTS OF FOUR
BLOCKS EQUALS 48422 CUBIC FT.
AVERAGE PER HOUSE = 2401



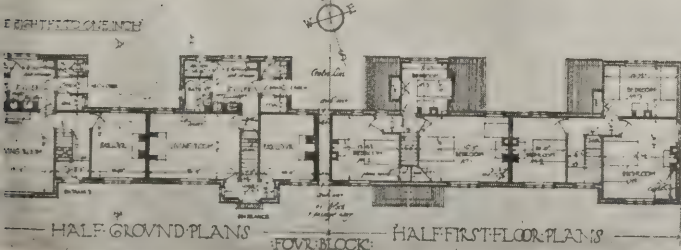
SECTION ON LINE A-B.



BACK ELEVATION.



FRONT ELEVATION.



HALF GROUND PLANS HALF FIRST FLOOR PLANS

BRISTOL HOUSING COMPETITION: PREMIATED DESIGN.

W. H. WATKINS, F.R.I.B.A., ARCHITECT.

(For the awards in this Competition see page 174 in our last issue.)

Special Birmingham Issue Next Week

COINCIDENTLY with the publication of our next
issue on Wednesday, July 9, the Birmingham
Housing Exhibition will open. We are therefore
making that issue a special City of Birmingham number,
in which the architectural interest of Birmingham will
be comprehensively treated. Its chief buildings will be
illustrated and described, and there will be portraits of
its leading architects and illustrations of their principal
work. There will also be a brief historical and topo-
graphical account of the city, which, second only to
Manchester in commercial importance, is the chief hard-
ware centre of the world. Having more than a million
inhabitants, it has extended its suburbs into Worcester-
shire and Staffordshire; and the pardonable pride of the
inhabitants of "the best-governed city in the world"
has been satirised in the saying that by them London is
regarded as one of the outlying suburbs of Birmingham.
These citizens of Birmingham may well feel proud of
their municipal enterprise, especially of their great water-
supply scheme, whereby water was got from the Welsh
hills at a cost of six millions of money. King Edward
the Seventh formally turned it on in 1904, when only
Birmingham had learned to think in millions. And the
city has produced or is inalienably associated with such
men of mark as Boulton and Watt, who perfected the
steam engine; William Murdock, the inventor of illumina-
tion by coal-gas; and many other men of light and
leading, like John Bright—above all, Joseph Chamber-
lain, who, although a Londoner by birth, reached the
height of his fame while he was a citizen of Birmingham,
of which he was Mayor in 1874-5. But we shall have
very much more to say about Birmingham and its ex-
hibition next week in our special issue.

Presentation of the R.I.B.A. Royal Gold Medal

THE Royal Gold Medal was formally presented to Mr. Leonard Stokes on Monday night, June 23. In making the presentation, Mr. Henry T. Hare, P.R.I.B.A., said: It is a great pleasure to me that the last function which falls to my lot as President of this Institute should be the presentation of the Royal Gold Medal for architecture to my old friend, Leonard Stokes. For many years his presence within these walls was constant and frequent, and no face was more familiar to us. We welcome and greet him to-day after a lapse of some years, and are pleased to have this opportunity of showing our esteem and appreciation both of his architectural work and his personal character.

It is, I think, necessary on these occasions to repeat the purpose and meaning of the presentation of the Royal Gold Medal which is accorded by His Majesty the King and awarded on the

architectural works of the highest excellence and very strongly marked character.

I must, as part of my duty, give a brief sketch of Mr. Stokes's career. He was articled to Mr. S. J. Nicholl, and afterwards spent some time in the office of a quantity surveyor, an experience which I am sure he must have found of great service to him in after years, for there is no method by which every part of the anatomy of a building can be so well grasped or understood as by actually taking out the bill of quantities. He subsequently acted as clerk of works at Christ Church Cathedral, Dublin, under Mr. Street, another experience of the more practical side of our work. Later he was in Mr. Street's office, and also with Mr. Colcutt and Mr. St. Aubyn. This was followed by a period of travel and study in the Eastern counties, and in 1880, on being awarded the Pugin Studentship, by a tour



MR. LEONARD A. STOKES, PAST PRESIDENT, R.I.B.A., ROYAL GOLD MEDALLIST, 1919.

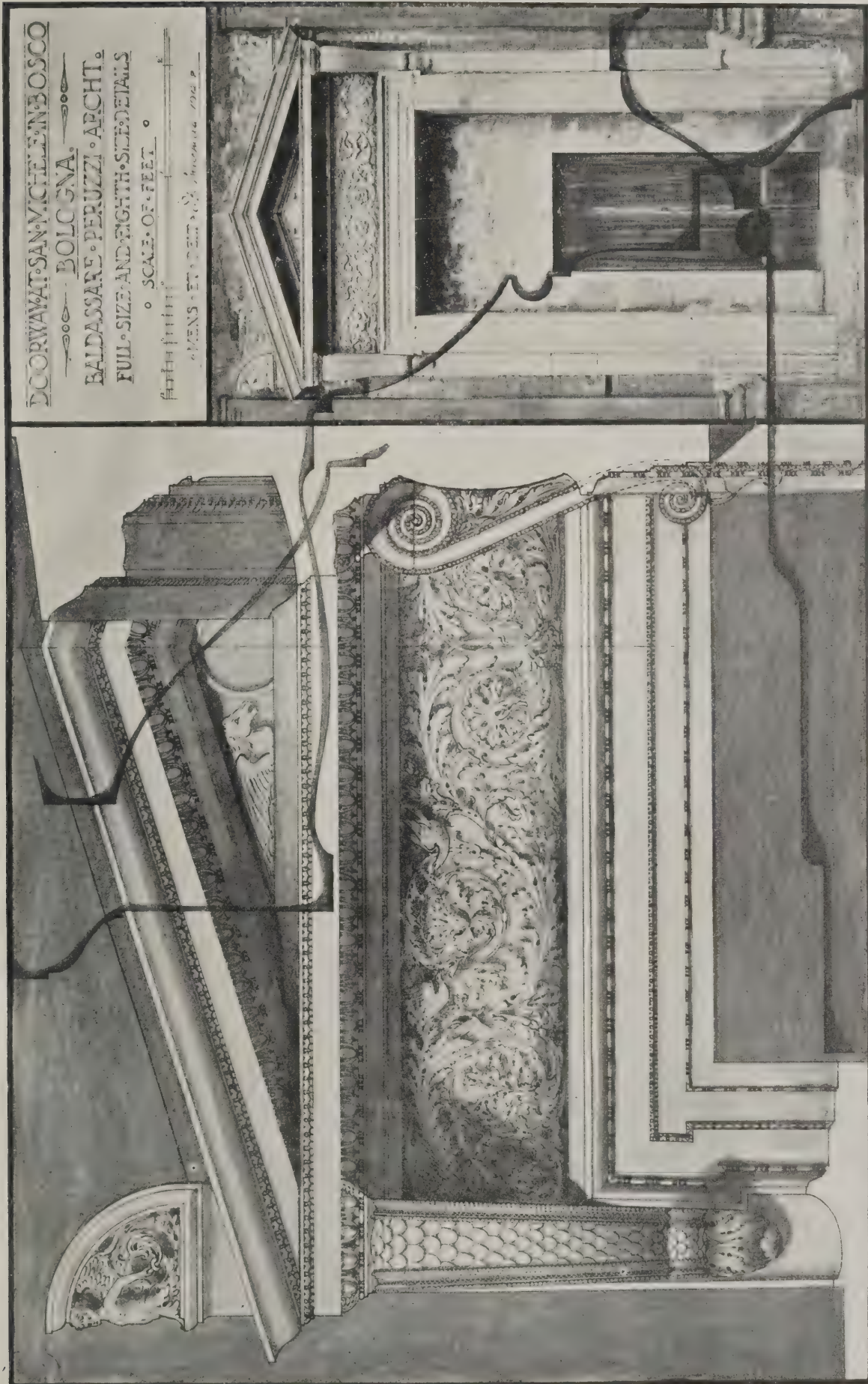
(From the Painting by Sir William Orpen, R.A., in the Gallery of the Royal Institute of British Architects.)

advice and suggestion of the Institute each year. Its object (to quote from the wording of the regulations laid down) is the "promotion of architecture," and it is "annually conferred upon some distinguished architect or man of science or letters who has designed or executed a building of high merit or produced a work tending to promote or facilitate the knowledge of architecture or the various branches of science connected therewith." The roll of recipients, since its institution in 1848, is a formidable and comprehensive one, and includes names known and honoured throughout the world. In adding Mr. Stokes's name to that list we feel satisfied that we are but carrying on its high tradition, for Mr. Stokes's name has been familiar to us for nearly forty years and has always been associated with

in Lincolnshire and Yorkshire. In 1881 he was in Germany and Italy.

His first work was the Church of the Sacred Heart, Exeter, carried out in collaboration with Mr. Ware, of Exeter. This was followed by St. Patrick's Schools, Southampton, a numerous houses, churches, and schools. One of the most notable of his churches is St. Clare's, Liverpool, a very beautiful and characteristic example of his ecclesiastical work. Other Churches are All Souls', Folkestone; St. Joseph's, Maidenhead; All Souls', Peterborough; St. Augustine's, Sudbury, and numerous others.

Of domestic work there is a very long list, too long to enumerate in detail, but amongst them may be mentioned



DOORWAY, SAN MICHELE, BOLOGNA. BALDASSARE PERUZZI, ARCHITECT.

(Measured and Drawn by E. B. Museman, A.R.I.B.A.)

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Minterne House, Dorset; Shooter's Hill House, Pangbourne, and his own residence at Woldingham.

Amongst his secular work, we are most of us familiar with the series of buildings carried out for the National Telephone Company in London and other cities. These are specially notable as showing how a purely utilitarian building may be made architecturally interesting. We also have in London a very good example of municipal work in his Town Hall for Chelsea.

The most notable work, however, which he has carried out during the last few years is that of the new buildings for Emmanuel College, Cambridge, a work which, in a city of fine buildings, ancient and modern, holds its own for character and general excellence.

I have omitted many fine works from the list quoted, but we have arranged in the adjoining room a selection of illustrations which will supply some of the omissions, and all of which will justify the high estimation in which his work is held by his brother architects.

Mr. Stokes was President of the Architectural Association at a critical period of its career, when it was first initiating its scheme of architectural education, a scheme which has since developed into one of the most important schools in the country. To his energy and foresight was largely due its early success. Later on, when the Association took over the premises of the Architectural Museum, he acted as architect in the rebuilding and adaptation of the buildings, a very difficult and thankless task, which was carried out with entire success.

After many years of service as a member of the R.I.B.A. Council he became President in 1910, and during the two years of his occupation of that position made a determined effort to take the first steps towards the unifying of the profession. After much tedious and tiresome negotiation, a scheme was arrived at which promised to accomplish this, but unfortunately serious opposition from unexpected quarters made its realisation

impossible, a result I think to be greatly regretted. Had it been accomplished the profession would to-day have been in a much stronger and more influential position. One still hopes that his labours in this direction may some day prove to have laid the foundation on which ultimate unity may be achieved.

I have probably said enough to show that Mr. Stokes during the many years of his active career has occupied a very prominent place in the world of architecture, and that his influence has been such as to justify in every way the honour which we are pleased to be able to render him to-day. It must be felt by everyone that our list of Gold Medallists would undoubtedly be incomplete if it did not include his name.

I may conclude with a sincere hope that he may for many years continue to produce such works as have interested and delighted us in the past.

Mr. Stokes was then called to the platform, and, amidst much enthusiasm, received the gold medal from the hand of the President. Mr. Leonard Stokes briefly expressed his thanks for the great honour that had been conferred upon him.

Sir Aston Webb, P.R.I.B.A., said that no one in the room, he felt sure, was more pleased than himself at the distinction. He thought Mr. Stokes had stood the test of time, and it had been a very severe test. He (Sir Aston) had not always been able to see eye to eye with Mr. Stokes, but he respected a man who was able sometimes to disagree with him. He was delighted at the bestowal of the gold medal on Mr. Stokes, and ventured to offer him his heartiest congratulations.

Mr. Paul Waterhouse, Mr. A. Keen, Sir Ernest George, Major Maurice Webb, Mr. W. J. N. Millard, Mr. F. Hooper, and Mr. H. Welsh also expressed their pleasure at the presentation, and also referred in appreciative terms to the retiring President, Mr. Hare, and to the past hon. secretary, Mr. E. G. Dawber.

The brief words of thanks of these gentlemen terminated a very interesting meeting.

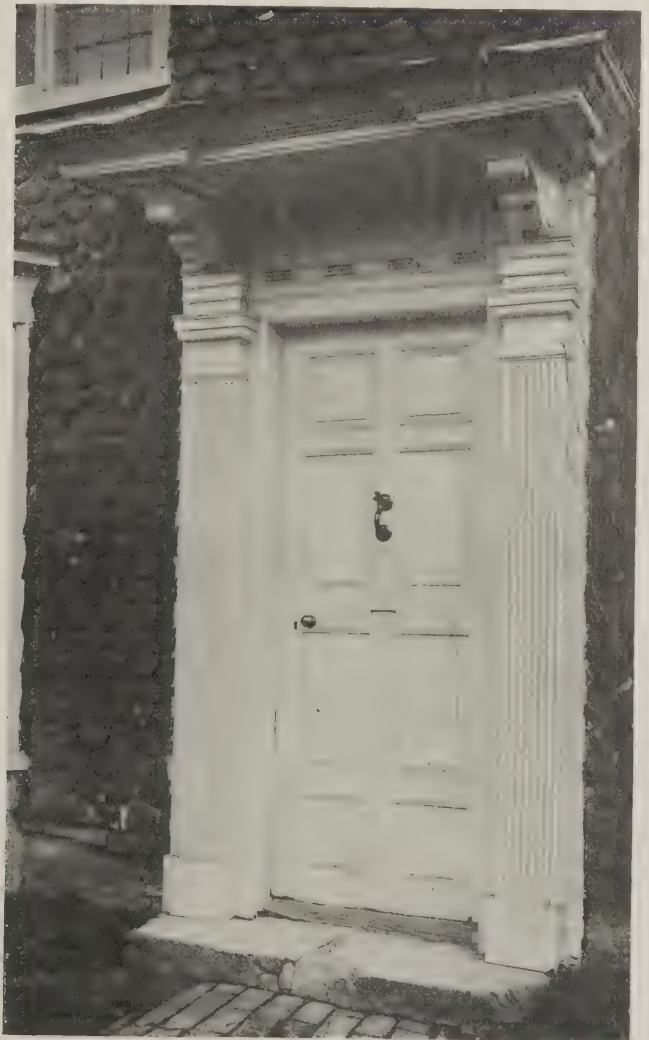


Photo: Nathaniel Lloyd, O.B.E.

NATIONAL HOUSING SUGGESTIONS: FIG. 18.

The illustrations show two eighteenth-century doorways. In one the door and doorway are painted white. The lack of contrast is unsatisfactory. The other example shows a white doorway and dark green door, which is the correct treatment and produces a pleasing result.

"Byzantine Splendour": An Essay in Imaginative Reconstruction

By ARTHUR E. HENDERSON, F.S.A., R.B.A., Licentiate R.I.B.A.

In this article Mr. Henderson very instructively analyses the fine picture of which the reproduction forms the subject of our double-page plate, and incidentally reveals its wealth of architectural interest.

THERE still remains in Constantinople a small fragment of the Imperial Byzantine Palace on the shore of the Sea of Marmora. The site was, and is, one of extreme beauty, both in itself and its outlook. The ground slopes down in a sweeping curve from the high ground extending from Saint Sophia to the massive brickwork of the southern end of the Hippodrome, to the mouth of the Bosphorus, and the shore of the Sea of Marmora. It was terraced and studded with palaces and ornamental gardens, official residences, flowering trees, stately cypresses, and spreading pines. The outlook is the same to-day in all essentials as it was in Byzantine days, but the site is now partly covered with squalid lanes and houses.

The palace had a small harbour with quay and stairs. By these the Court had direct access to the outside world without the necessity of passing through what was often, as is recorded, a tumultuous city, to the main harbour of the Golden Horn, or it could be used on happier occasions for the fascinating amusement of taking barge to various suburban palaces and resorts of pleasure, many of which were and are situated in and near the pleasant valleys on the European and Asiatic shores up the Bosphorus and the islands in the Sea of Marmora.

This harbour would be the place for the arrival and reception of Ambassadors and high functionaries from the Courts of Europe. Especially so when the wind was from the north; then it was all but impossible to negotiate the mouth of the Bosphorus to reach and enter the Golden Horn. The galleys, therefore, would cast anchor in the sheltered harbour of Eleuthesus, and the Imperial barges run alongside to convey the distinguished visitors direct to the Imperial stairs.

The scene depicted is supposed to represent the Grand Entrance or Porta Marmora above these stairs on the first day of summer, when the Court is supposed to be passing from the heat of the city to the cool breezes of the Princes' Islands.

The Empress is shown under a golden canopy and about to descend the marble steps to her barge at the landing stage. Court ladies are her escort, others are standing on the steps and holding roses, with a view to throwing them on the barge at its departure. As the Empress passes so they join in and form an informal procession.

In all reconstructions of the past great difficulty is found to confine the attention solely to history as then known and data up to and not beyond the date selected, to use only that which was known without comparison with the present, to think their thoughts, virtually to live with the people and be one of them, and to ignore that which happened later; therefore details of earlier and subsequent times which have been purposely used are to be forgiven and even appreciated.

Much latitude has been taken in that it is suggested that Greek, Roman, and Byzantine styles of dress, decoration, and architecture were known and used during the period from the reform of the Byzantine Court and the city after the Latin conquest to the fall of the city into Turkish hands, namely, between the middle of the thirteenth to the middle of the fifteenth century.

The costumes are based more on the Greek model than on the Byzantine, for, it is probable that this mode of clothing was generally used, as is shown by complete woven fabrics being still made and worn in the Near East, which are wrapped around or bound to the figure, but this is now done only by the peasants not yet influenced by Western methods of cheap continuous weaving and barbarously cutting the material to fashionable shapes.

The Empress is given a Byzantine dress. Byzantine Court and Ecclesiastical dresses were very stiff and formal, especially as portrayed in existing illustrations. In these the figure appears to be little more than a prop, and even the draperies were drawn on the flat, with no attempt at perspective, but I will say this, lighter or darker lines were introduced to represent the folds. When motion or animation was attempted the action is more quaint than natural, no great talent for grouping or composition is shown, the figures appear as separate masses on a gold ground, and the general glory is rather in the curved surface of dome or arch, and atmospheric effect rather than in the disposition of the figures and the general arrangements.

I have therefore taken a few liberties in the delineation of the mosaics. Naturally, the great white column, together with the peacock and the golden aurora, are the three dominating features of the architectural portion of the design.

Those who know St. Mark's, Venice, may call to mind the beautiful little group of detached pillars at the south-west

angle of the façade, composed of a single column which supports a group of smaller coloured shafts from which arches spring to join the main façade. Now, having acquired the idea, the next thing was to utilise it in altered form. The main shaft, lowest drum, and pedestal are a memory of the great temple of Diana at Ephesus, but the pedestal, instead of being sculptured white marble, has been treated as plain dark purple marble, and the drum above is given Greek carving (Eros and Psyche, etc.), as Byzantine figure carving is so hopelessly bad. The flutings of the shaft are twisted like those on the delightful white pillars to the Loggia in front of San Lorenzo, near Rome. The basket form of capital has been used as at St. Mark's. This simple form conveys the assurance of great strength combined with simple beauty; the central panels have been adorned by sculptured human butterflies instead of the usual lily design. Little need be said of the shafts above, excepting that they are of Cippolino marble to give an upright effect.

In the centre foreground is a quay with terrace over; a broad flight of steps leads down from the latter to the former, in front of which is a platform for the boats and barges to moor against. Behind the terrace is a large entrance hall with flanking steps curving round and meeting at the rear.

The retaining wall to the terrace is enriched by a broad band of carving as a frieze representing: On the left, sea-borne produce being brought to the city; and on the right, a camel caravan (hardly shown), would be applicable as representing that brought overland to the greatest emporium of the Near East. By sea the city lies midway between the ports of the Black Sea and the Mediterranean, and by land at the termination of the caravan routes from and to Asia and Europe, and was the place for transhipment across the Bosphorus.

This aspect of the city is further shown by the device of a ship charged on a banner suspended from a pole sunk in a base enriched by bronze dolphins.

Through the main doorway to the palace can be seen a hall reminiscent of the interior of the temple of Jupiter at Baalbec, and beyond is an open court with buildings fronted after the design of the palace of the Porphyrogenitus on the land walls, only a balcony has been added to the upper storey.

The landscape beyond shows the retaining wall to one of the many terraces in the palace grounds situated between Saint Sophia and the sea; the landscape towards the left of the picture gives the southern semi-circular end of the Hippodrome, beneath which are gardens, houses, and terraces.

A seated figure of the Emperor Justinian is placed over the main doorway. The archangels SS. Gabriel and Michael stand respectively on his right and left; these are the only ecclesiastical emblems in the design. Justinian was a great patron of the church, and was instrumental in the erection of many Byzantine churches and palaces, besides his great rebuilding of Saint Sophia.

I felt the walling above required a large panel as frieze. The carving in it represents a state entry after victory, the Emperor and his spoils of war are arriving in front of the Golden Gate, and it can be noted that Saint Sophia is shown through the central arch. The gate being primarily erected for this purpose, it was necessary to introduce a martial pageant, otherwise all representation of war has been omitted.

Above, in the gallery, is placed a gilt bronze-statuary group representing Aurora on the Chariot of Dawn, driving a quintriga; the fifth horse is, I hope, introduced with good effect. Framing and enclosing Aurora is the terminating apse, decorated in mosaic, the design representing the rising sun encircled by a rainbow, along which the little hours dance and sparkle. The hours are treated freely and are given birdlike wings and spreading tails; the latter feature is represented in Archaic Greek sculpture, but I have not noticed this feature in later work. On the bending arch above, and finishing this portion of the composition, are given the Zodiacal signs. The great flanking columns are borrowed from the verde antique nave pillars in Saint Sophia.

The spandril to the left of the arch above the columns is perpendicular, while that to the right curves round and acts as a pendentive sweeping over the arches beneath, and supports the peacock semi-dome above.

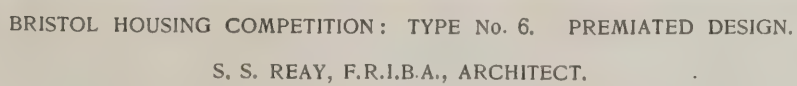
The exedra flanking the hall and curving in a semi-circle behind the flanking columns is semi-domed, with wide shallow flutings, following St. Sergius and Bacchus in Constantinople.

A greatly projecting internal gallery is given. The design is composed of large consoles carrying coffered arches upon which



BRISTOL HOUSING COMPETITION: TYPE No. 3. PREMIATED DESIGN.

S. S. REAY, F.R.I.B.A., ARCHITECT.



the floor rests. It will be observed that cornices have been generally omitted, as they would be of little service and would interfere with the perpendicularity of the design.

It now remains to describe the great mosaic peacock. The semi-dome or apse in the form of a large shell is fluted like some of the late Byzantine domes. The long-tailed feathers have been run out on the arrises and the eye feathers placed in the flutings. It may be interesting to observe that on examining the eyes of the feathers of a peacock in splendour it will be seen that besides radiating and arching they sweep from the body on both sides round and outwards, comet like, and appear to keep passing one another criss-crosswise, a phenomenon that, when accurately displayed forms a most gorgeous and decorative result.

Such spacing of the eyes has been adopted, but not pressed, for a set pattern in this place would be out of keeping with the great mass of colour desired. Some may think the peacock is over large in scale, but it should be borne in mind that the design would be seen from a distance and be a distinguishing mark, like the great mosaic figures of Christ or the Theotokes in Byzantine apses, which dominate the whole depth of Byzantine cathedrals and churches.

After all, architecture is but a frame to humanity, and ministers to its needs. Buildings are designed for specific pur-

poses; if fully used express their purpose, but if no use can be found for them they fall into decay, are dismantled, pulled down, and the materials reused.

A great building shown empty may call forth certain emotions, but the same building filled with humanity using it for the purpose for which it was erected gives far greater pleasure. This is why a screen is portrayed to show how harmonious the two can be made.

As has been before mentioned, the Empress and her canopy-bearers were the first paint on the canvas, and as the architecture grew so did the figures; the architecture was redispersed, so were the people, and vice-versa, the one being intimately connected with the other. As the steps were painted in so were the crowds placed upon them, and designed with the colouring and superstructure; when one was modified so was the other. If the eye follows the colours of the draperies, such as the blues and greens, it will be realised what is meant, as though the picture represented a glade of forest trees. The ground and undergrowth is the pavement with its coloured mosaics; the widely supporting roots gathering in and growing imperceptibly into the boles and stems, are the figures; the massive trunks, stems, and branches are the architecture; and lastly, the gorgeous sunlit foliage is, in effect, the scintillating decorative mosaic work.

The Plates Described

"Byzantine Splendour."

THIS plate is described in an article beginning on page 10. Here it may be added that the artist, Mr. Arthur E. Henderson, kindly lent the picture to the R.I.B.A. during the last year of the war. It is at present at his studio, 6, New Court, Lincoln's Inn Fields, where he would be glad to show it to any of our readers. Our illustration is taken from a carbon photograph, 37 in. by 17 in., which may be obtained from the artist or from the Durotype Fine Art Company, 74, New Oxford Street. In our opinion, the picture should find a permanent home in one of the national collections, as it ranks with "Merlin's Tomb," in the Victoria and Albert Museum. (Pages 18, 19.)

Doorway, San Michele in Bosco, Bologna.

Beautifully situated on the hill above Bologna, this fine church shows but little of its former grandeur, when it was, in our good Bishop Burnet's phrase, "one of the finest examples of monastic splendour in Italy." The Olivetan Monastery was

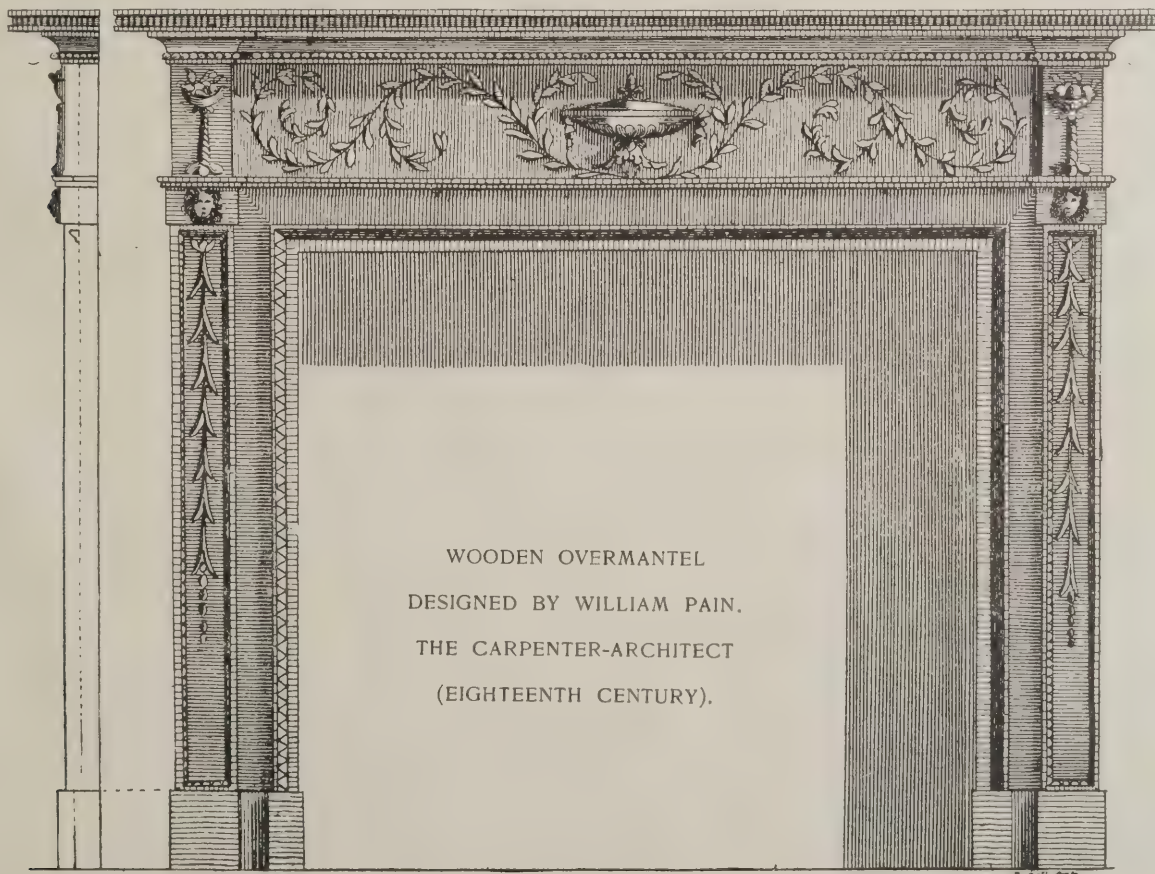
suppressed at the French invasion, when its magnificent halls were converted into barracks and prisons, and its best pictures were removed, those on the walls and ceilings, painted by the Caracci School, being allowed to fall to ruin. Mr. E. B. Musman's elevation and detail of a doorway bring out clearly the beautiful proportions of its members, and the richness of the decorative features, which show remarkable freedom of choice and treatment. (Page 7.)

Designs in Bristol Housing Competition.

These designs, of which the particulars appear on the same sheets with the elevations and plans, call for no comment. They are chiefly interesting as showing the type of dwelling favoured in the West of England. (Pages 11 and 13.)

An Etching by Samuel Prout.

When, a few months back, we published the companion drawing to that now shown—the two were issued on one sheet on July 20, 1811, by T. Palser, "Surry Side, Westminster



WOODEN OVERMANTEL
DESIGNED BY WILLIAM PAIN.
THE CARPENTER-ARCHITECT
(EIGHTEENTH CENTURY).

Bridge"—its description as an etching was challenged, the appearance being rather that of lithography. To prevent further misapprehension, it may be stated that the description was correct. The method of production was etching of sorts—probably that known as soft-ground etching, in which the picture is drawn with lead pencil on paper placed over a soft wax ground laid on copper. When the paper is lifted the wax adheres to it where the pencil has travelled, leaving, of course, corresponding channels on the plate, which is then etched. This method was much in vogue at the beginning of the nineteenth century, when lithography drove it from the field. "Mr. Prout's method of work," Ruskin tells us, "was entirely founded on the quite elementary qualities of white paper and black Cumberland lead," and, again, he observes that Prout,

unlike Turner—or Shelley or Keats—could not "gild or veil the fatalities of material truth," but "saw only what all the world sees, what is substantially and demonstrably there; and drew that reality, in his much arrested and humble manner indeed, but with perfectly apostolic faithfulness." The drawing of Whitchurch, shown on our plate, has in it, however, more of insight and feeling than Ruskin's accusation of almost photographic fidelity would lead one to expect. Prout's marked preference for drawing elevations is to be explained in a statement that does the artist little credit. He had no knowledge of perspective, or, at all events, no skill in it, as his street scenes make clearly evident. It is certainly odd that he should have gone plodding on without any attempt to master an easy science that would have been of infinite advantage to him. (Page 23.)

Reconstructing Old Cottages

THE probability that during the next few years we architects will have to decide the fate of many an old cottage and thereby materially affect the interest and pleasure to be had from the countryside is one that calls for careful consideration. The following thoughts on the subject are expressed not because the author thinks he can give any final conclusion as to the treatment of old cottages, but because he hopes this contribution may help others to find some working principles on which to take action.

The treatment of each case will depend on the value of the cottage—not the monetary value only, but others which may be enumerated as follows: The value (1) as a fit habitation; (2) as an example of a building method either excellent or rare in its kind; (3) a building that fills its site so rightly that it is at once clear that with its loss a beauty of the place will go; (4) a good example of a certain style or manner of design.

A cottage may boast all these qualities; it may possess a single virtue only, or, more likely still, it may possess a combination of the four. In deciding the fate of a cottage it will be useful to consider it from each point of view, and decide wherein its merit rests. Then the issue on which the decision will be made will become clearer.

At the present time, if a cottage satisfies the first requirement, it sufficiently justifies its existence as a habitation. National economy will forbid its destruction, however much it may lack any of the remaining qualities. At a future time, when the nation can afford the luxury of beauty for its own sake, a cottage which is merely habitable should be destroyed. Cases will even now arise where, being barely fit for use, the want of other virtue should condemn the cottage.

The danger, however, that now confronts the nation does not lie with cottages of that class, but rather with cottages which possess any or all of the other above-named qualities, and with those with insufficient sanitation.

The architect should consider the case of such cottages with a mind biased in their favour, for these virtues are rare, and most of them when lost are impossible to recapture. This maxim is one which it is hoped the authorities with power to condemn a cottage will bear in mind not only on the first inspection, but also at the subsequent stage, when a scheme for modifying the building in accordance with present housing requirements is submitted for their consideration. The Society for the Protection of Ancient Buildings considers this point so important that it urged, though unavailing, in the House of Commons, the addition of clauses to the Housing Bill now before Parliament, under which an Advisory Board should have power to veto the condemnation of any cottage which, in the opinion of that body, sufficiently possessed these qualities. The only safeguard that the nation has at present by law is that of the Ancient Monuments Act, 1913, and there are very few cottages that, even at a stretch, can be called ancient monuments. As the Ancient Monuments Act can only protect an uninhabited building, its value as regards the hypothetical case of a monumental cottage is very small, for a cottage that is used for any other purpose than as a dwelling-place is indeed a dreary thing.

What, then, is the position of the owner, his agent, or architect in the case of a valuable cottage or group of cottages which has been condemned or, in the latter instance, where the condemnation of one cottage spoils the group? He may appeal to the Local Government Board to reverse the decision of the condemning authority, or he may submit proposals for the alteration of the cottage to suit the authority. The first is not so difficult a proceeding as it might be thought, and if the case is good is likely to meet with sympathetic consideration.

The most common defect on account of which cottages are condemned is the want of a decent height in rooms. In this

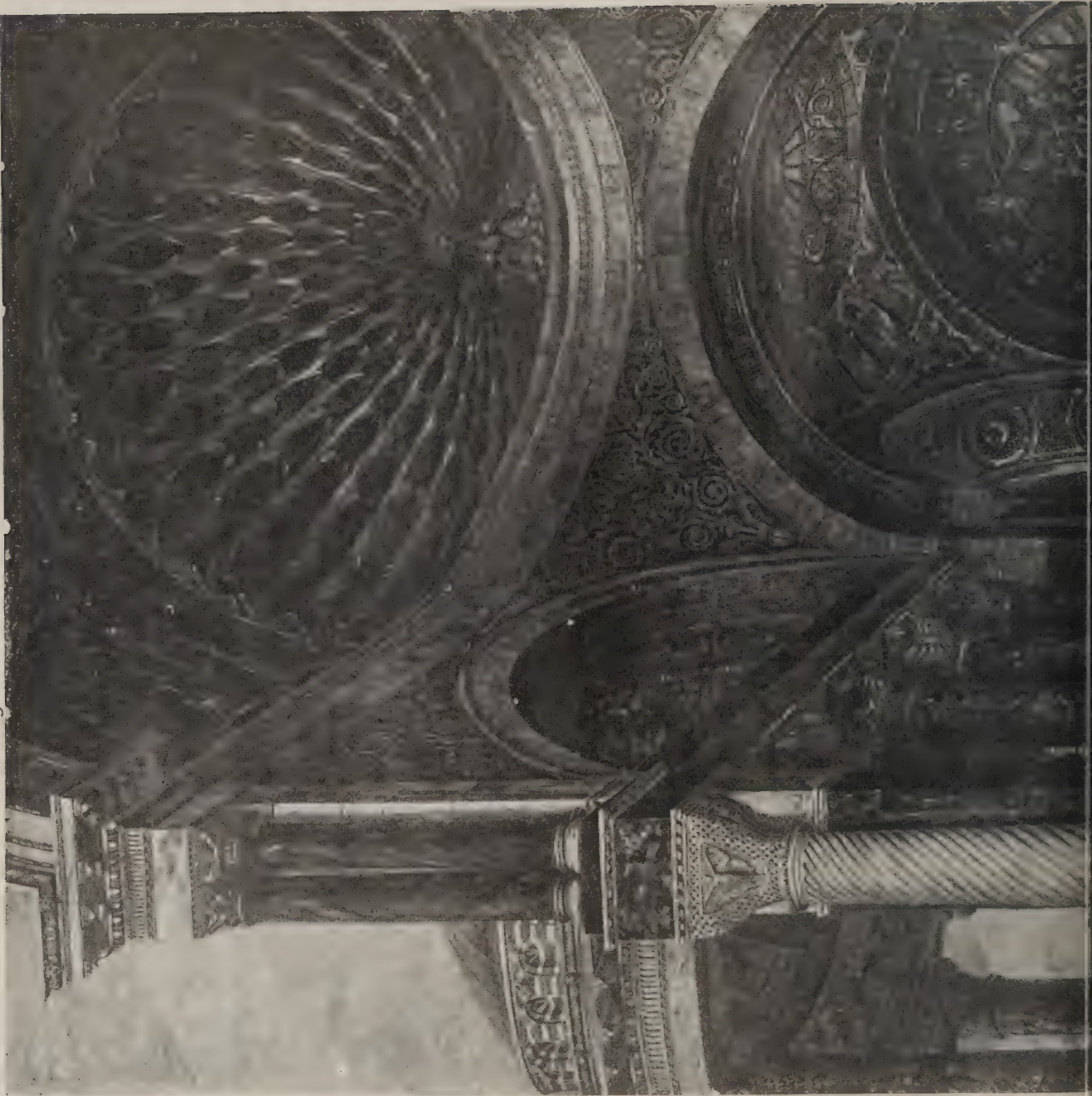
case it is sometimes possible to consider two together, and, with little alteration to the appearance, to render these fit for habitation as one dwelling. This may be done by the removal of the first floor and the raising of the ground floor a foot or so above the level of the surrounding earth. There are various modifications of this solution; the living-rooms may be made from one cottage, with a storage loft above in the roof, and the sleeping rooms may be made in its neighbourhood with a storage cellar below. The difficulty in both cases is the treatment of the windows with regard to the changed levels. Much may be done by lowering sills, by blocking some lights, and other devices, so that the general grouping and outline of the cottages may not be sacrificed in the cause of sanitation. By this means, where ground is cheap, the owner, whether a private individual or a public body, will obtain one habitable cottage at about half the outlay of a new building, and also the character of the place remains unchanged.

Damp walls are another defect which draws condemnation. As architects we know that damp courses may be inserted in many types of building without undue expense; we also know that earth has accumulated about most old buildings, and that walls may be made dry by its removal for a sufficient distance from them. We know that defective down pipes and guttering are commonly the cause of a damp wall, and that the combination of the two will so harm a wall as to render the condemnation of a cottage likely. The remedy in such a case is obvious. In fact, it may be stated, that, as a rule, where a cottage exists the thoughtful repair, including the fees for professional advice, is cheaper than pulling down and rebuilding even when no fees are included in the latter. Again, by following this advice the community secures the original building to its pleasure, and the owner's money is saved.

One would like to draw attention to the letter from Mr. Thackeray Turner, chairman of the Society for the Protection of Ancient Buildings, which lately appeared in the daily papers. By this letter the society offered to act as consultants with any owner or architect free of cost provided the full particulars of the case were laid before it. It appears to us that this offer should be of great use at its face value, and that if the support of individuals who successfully tackle any case is given by sending a full report of it to the society, that body might quickly become a centre of exchange of practical knowledge for all about the subject.

There is another aspect of the case which needs consideration. It has been stated that now that the public authorities are building cottages private owners are glad to have their cottages condemned, and so be rid of a tiresome responsibility. We do not question the wisdom or right of this, but we do insist that the building expenses that public bodies are about to incur in country towns and in villages could be reduced in part if, instead of considering new cottages on new sites alone, the adaptation of old cottages were carefully thought out and executed. For old cottages can be rendered habitable at less cost than must be spent on a new building, and they can often be bought with the site at the site value alone.

Not altogether inappropriate are the following question and answer: What is it that springs to the mind when England is named? Some may say that it is the painted map of the island, but the more common answer will be that portrayed in a poster widely displayed at the beginning of the war—a poster representing a country cottage juxtaposed to a ruined Belgian town. It is to preserve these cottages which are so intimately connected with the life and history of the nation, and also to see that they are indeed healthy dwellings, that we must work in the near future. In short, we must not only see that our new cottages are good; we must also see that our old ones are preserved.





BYZANTINE SPLENDOUR.

(From the painting by Arthur E. Henderson, F.S.A., R.B.A., Licentiate R.I.B.A.)

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Architectural Causerie

I REMEMBER once attending a play, the plot of which concerned an eminent house of Elizabeth's day occupied by a youthful bachelor, his faithful valet, and a retinue of servants. The raising of the curtain discovered the hero of the piece sitting in his study contemplating the portrait of a notorious ancestor. Suddenly the picture crashes to the floor, revealing a small recess containing a bottle and a scroll of parchment. The hero, startled by the crash, rings for his valet, to whom he reads the message on the scroll, which states that whoever tastes the liquid in the bottle will be translated to the period of its distilling. Both master and servant try the experiment, the stage is darkened for a space, then lit up, and hey, presto! we are back in the spacious times of Farmer George, with the hero metamorphosed into the lace and ruffles of his notorious ancestor, and the personality of the valet changed into a voice which makes itself heard in distant corridors through the ensuing acts. A very pretty piece of trickery, but all a lie and a cheat.

* * * *

The other day, in Gray's Inn Square, the thought occurred to me that I should like to obtain a similar concoction in order to study the citizens of a past age, but on reflection the humour of the idea evaporated and I was forced to have recourse to my imagination. The atmosphere of Gray's Inn breeds many strange fancies which are altogether unobtainable in other parts of London. In its classic precincts one reconstructs the past with unerring instinct; but this is beside the point. My appetite once whetted for adventure led me to contemplate a mental excursion to the suburban haunts of the tradesmen and citizens who flourished a hundred and fifty years ago. After wandering far afield I returned to Tothill Street later in the day, selected pen and paper, and endeavoured to write of what I had seen in my ruminative peregrinations.

* * * *

Reader, the period is the third quarter of the eighteenth century; the London tradesman, a portly figure with a cheery waistcoat and flaxen wig, is already well acquainted with the suburban delights of Turnham Green and Kentish Town, which claim him as much as Chesham or Fleet Street. He talks glibly of Richmond and Hampton Court, forswears the 'Change, the Customs House, and the Strand whenever he can emulate the equestrian skill of Gilpin, and begins to consult carpenter-architects concerning villas amidst rural surroundings. In the dusty retreats of the day to which the soft smoke of London's coal does not penetrate, the tradesman and the citizen passed the end and the beginning of each week, some making the passage of the vile roads daily, braving the pistols of Turpin and the extortions of toll keepers, in order to reach "their boxes," built in a row to resemble as much as possible the streets of London. Some own the villas standing single at a distance from the highway, with a summer-house at the end of the diminutive garden, from which it is possible for the occupant to command a view of every carriage and to display his best wig to advantage. A little artificial fountain spouting water, sometimes to the extraordinary height of four feet, the basin containing frogs in lieu of fishes, forming an exquisite ornament in these surroundings. Other gardens hold plaster casts of gods, goddesses, and odd figures to remind the women-folk of the delight they have seen at Drury Lane and the King's Playhouse.

* * * *

It is a Sunday in the third week of Lent, and I propose to avail myself of a most pressing invitation to spend the whole day in the country with a worthy citizen who keeps a hosier's shop on Ludgate Hill during the week. The sun is shining when I cross Blackfriars Bridge, on which Mylne's men are still engaged. I make my way for three miles beyond Southwark in company with my friend's bookkeeper, whom I have met by accident, and who becomes my guide, noting that he carries a copy of the London "Evening Post," his mistresses hoop, and half a dozen churchwarden pipes. At the end of our walk we came upon the pleasant square villa cut off from the curved surface of the road by a dry ditch and approached through a gap in the hedge across a bridge of spongy planks. There was my worthy friend sitting at the door in a black falling cap smoking his morning pipe. He bowed and rubbed his hands in true fashion, welcoming me to the country, at the same time pointing out a beautiful vista of two malefactors hanging in chains on Kennington Common, an obscure turnpike on the left, the swinging sign of the George and Dragon,

and a distant view of the dome of St. Paul's swathed in smoke. Soon after I was introduced to Mistress Ludgate, who apologised profusely for being caught in such a deshabelle. Entering the villa I chanced upon the hall painted white and covered with a collection of prints published by Sayers and various paintings produced by the students of St. Martin's Lane. On one side was a large map of London, a plan and perspective view of the Mansion House, with its twin attics, and several smaller prints of the City churches, together with a coloured print by Ormiston. On a table in a glazed case was a stuffed fox, trapped, as my friend said, near Brixton, and over the parlour door there hung a pair of stags' horns purchased, no doubt, near Exeter Change. When I had expressed my admiration I was shown into the parlour, and at once asked who was that over the chimney piece. I replied at once, "it is a very striking likeness of you, O most worthy Common Councilman of Farringdon Ward Without." My attention was then directed to another full-length in a scarlet gown, who, I was informed, was a well-known figure at the East India House, and a friend of Sir Robert Taylor. Mistress Ludgate filled up a panel in the corner, in imitation of Boucher, stroking a ram with gilt horns under the shade of a brown tree. The conversation was entertaining: all of the country and little of the shuttered shop bolted and barred for the week-end. After a pipe and a glass of milk punch we adjourned to view the estate, which consisted of a space forty feet deep and about a hundred in width, containing a dozen flower pots, each standing on a gilded lead tray, with various plants seeking the warmth of the sun. At the end of the garden my friend pointed out the summer-house, an octagonal building partly temple and partly hermit's cell, enriched with battlements and a spire of painted wood carrying a weathercock in the shape of a fox scurrying across space.

* * * *

At three o'clock we sat down to a feast consisting of a turkey cock, bacon, and beans, a sirloin of roast followed by oyster patties, stewed eels, and a pie of aldermanic proportions. Sherry and Madeira, port and gin, completed the repast. Then we both slept in the garden beneath the shade of a mulberry tree. That is, as much as we could, for the flies and wasps were troublesome. About six o'clock we smoked a last pipe, and that we might enjoy a little of the country my friend suggested a walk through the dust Londonwards. So I was forced to comply, stumbling along the top of the dry ditch while my friend went puffing, with his hat in his hand and his wig half off his head, through the large rut on the crown of the road. A mile from the villa we turned into the Golden Wheatshaf for a decanter of stingo before we parted, when I fell in with a party of liverymen making their way to town from a day's excursion at Erith, whom my friend prevailed upon to visit him the next Sunday.

* * * *

My mental excursion is over; the account in these columns is the result. I could continue to describe many other features of the period, such as the Chinese bridge belonging to Mr. Tooth, the pastrycook of Threadneedle Street, the tin cascades, statues of papier-maché, Gothic potting sheds and Roman greenhouses, model swans and stone gods. To my mind there must have been active scenes in Cheapside and the Strand on those festive Saturday afternoons, when Walpole was hieing to Strawberry Hill behind six horses; for not only were the apprentices excited as they sorted the goods back into the drawers and cleared the counters, but Madame Citizen, with her daughters, was putting finishing touches to briskets and cold chickens, bottling cold punch, packing baskets with clothes, and haggling with hackney coachmen, who demanded full recompense for the perilous journey.

* * * *

Mr. Carpenter Pain, Mr. Halfpenny, and Mr. Batty Langley tempted the citizen away from Bow Bells to enjoy rural life, and these artificers knew how to encourage gentility. They built for the future as well as for their own day, and although London has swept "London out of town" into its entity, the fact of the erstwhile suburban villa affords evidence of old-time migration. Shades of the past! ye are pleasant associates—statuaries of the Oxford Road, furniture windows of Monmouth Street, Bottomley the merchant of stoves and fanlights, I would ye were in existence now. Gone are your wares, goodly and meretricious, but the villas that housed them still exist and I am told that Mr. Ramsey has a book newly published describing them.

AERO.

SIR CHARLES T. RUTHEN, F.R.I.B.A.: HIS PUBLIC SERVICES.

Last week we published a few particulars of the professional career of Sir Charles Ruthen. The following additional biographical details will be read with interest. He was born in South Shields in 1871, and, as previously recorded, after serving his articles as an architect and surveyor with Mr. Matthew Hall, he obtained an appointment, at the early age of nineteen, in the Surveyors' Department of the Swansea County Council. After about five years of municipal work, Mr. Ruthen decided to commence in practice upon his own account, and in 1896 did so in Swansea, where he has built up one of the largest practices in Wales, and has gained a foremost position amongst expert witnesses upon all matters affecting building, light and air, easements, etc. His executed works include, as mentioned last week, the New Exchange Buildings, the Hotel Cameron, Carlton Restaurant and Theatre, the Picturedrome, Picture House and Pictorium, the "Cambria Daily Leader" Buildings, Mond Buildings, and Pantygwydir Baptist Chapel, and a large number of business premises, private residences, and model cottages. He has taken a very active part in the public life not only of Swansea, but of Wales, and has for many years been considered one of the foremost authorities upon housing and town planning. He was some years ago a member of the Swansea County Council and a Swansea Harbour Trustee, and is a Public Manager of the Swansea (Trustee) Savings Bank, treasurer of the Welsh Housing and Development Association, a vice-president and trustee of the Swansea branch of the Federation of Discharged and Demobilised Sailors and Soldiers, and the Architectural Director of Messrs. R. E. Jones, Ltd., which company proposes to erect a great hotel upon the site of Terry's Theatre and adjacent property in the Strand, London, and has in addition purchased for reconstruction the Manchester Hotel, Aldersgate Street; the Bedford Head Hotel, Tottenham Court Road; the Hotel De Provence, Leicester Square, and other premises in the metropolis.

Sir Charles, who holds a captain's commission in the R.A.S.C., M.T. (V.), has written many articles upon housing and town planning subjects, and a long series of articles descriptive of "An Architect's Holiday in Northern Italy." A few years ago he was awarded two gold medals and a silver medal for model cottages erected at the South Wales Model Cottage Exhibition, held by the National Housing and Town Planning Council. He is a member of the Council of the Society of Architects and an Honorary Examiner, also a member of the Council of the London Society, and was last year created an officer of the Most Excellent Order of the British Empire. The knighthood now conferred upon him is for signal services rendered to the State during the war, and, in his own words, is "a great honour conferred upon the architectural profession through one of its humble members."

In the early days of 1917 the enormous demands made for office accommodation to house the ever-expanding war departments, caused the War Cabinet to establish (at the urgent request of H.M. First Commissioner of Works, the Right Hon. Sir Alfred Mond) a War Cabinet Committee on Accommodation, under the presidency of H.M. First Commissioner of Works. This Committee was vested with War Cabinet authority over all Government official accommodation, and one of

the first steps taken was to appoint two inspectors, Sir Leonard Powell and Sir Charles T. Ruthen, "to enquire into and report upon the use made by Government departments of their office accommodation." The two inspectors commenced their very difficult task in February, 1917. The great success attending the investigation from the beginning was undoubtedly due to the wide interpretation given by the inspectors to the terms of reference. The issue of the first report brought about the establishment of a rigid standard for Government occupation, and embodied in it a comprehensive review of the methods necessary, and proposed to economise accommodation and staff and produce efficiency in administration and supervision.

The first reports contained scathing criticisms of methods then existing, and an immediate alteration was the outcome. It can be easily understood that in the early stages of their work the inspectors were not greatly loved by the great number of Government officials, who obviously came under criticisms severe and unbridled.

Some forty highly technical and valuable reports were issued in the first twelve months, and then the inspectorate was enlarged, its authority and duties were extended, and Sir Charles was in January, 1918, appointed Chief Inspector by the War Cabinet Committee on Accommodation; and at the same time he was appointed, by the Board of His Majesty's Office of Works, Deputy-Controller of Accommodation for the entire London Area.

He still holds these two positions, and he carries on the onerous duties (as he has in fact from the beginning) in an entirely honorary capacity. It is hoped that before long Sir Charles will be able to publish an account of his work from the beginning, but for the present the nature of the duties which have devolved upon him may be gauged by the fact that upon the signing of the armistice he was responsible for the housing in London area of well over 100,000 war staffs, including the American Army and Navy, Canadian and Australian Headquarters Staffs, and the Headquarters Staffs in London of our Allies. This enormous number, it must be remembered, was in addition to the permanent pre-war official staffs, and in the exercise of his duties Sir Charles has maintained control of nearly 800 premises in London area, providing approximately eight million superficial feet of floor area.

RURAL HOUSING IN SCOTLAND.

The Secretary for Scotland (Mr. Robert Munro, K.C., M.P.) presided at a conference on rural housing in the Balmoral Hotel, Edinburgh, on June 17, convened by the Local Government Board in accordance with the promise given by Mr. Munro in Parliament. The Local Government Board was represented by Sir George McCrae, vice-president; Mr. Ewan Macpherson, the legal member; and Sir Leslie Mackenzie, the medical member; and the Board of Agriculture by Sir Robert Wright and Sir Robert Greig.

The Secretary for Scotland said the Housing Bill was watertight in its provisions so far as urban housing was concerned, but it had been represented to him that suitable as the arrangements by the Bill might be for town conditions, they were not entirely adequate or satisfactory for country districts. It was further represented to him from responsible quarters that if a conference of a repre-

sentative character were convened to exchange ideas regarding this question useful and fruitful consequences might ensue. He had had made to him a number of proposals for the solution of the rural housing difficulty, and the best course would be to invite those who were responsible for these proposals to expound them to the meeting.

Sir Hugh Shaw-Stewart, representing the Association of County Councils, said his association thought it would be a great waste of time and of effort and of money if new houses must in every case be provided. Nobody wished to see people inhabiting insanitary houses, but their information was that in many parts of Scotland there were houses not properly habitable now, but which might be made quite habitable by reconstruction, subject, of course, to the approval of the Local Government Board.

Mr. George Fraser, representing the Association of District Committees, emphasised the rating difficulties of district committees partly industrial and partly rural, Mid-Lanark, for instance, of which he was chairman. They were assuming that the rating area was the ward, and appeared to them inequitable that they were going to assess the rural areas, the ploughmen, the farmer, and the agricultural owner to provide houses for the industrial people of the urban areas. The local authority was bound to provide houses, but he thought they should stop short at providing for one section only. They must approach it as a national question.

Major Scott Plummer, representing the Scottish Land and Property Federation, said in the rural districts the great majority of the houses had been provided by the employer as part of the wages of the men. The proposal of the Bill was that the State should assist in the building of houses for employees in the urban districts, and if that could not be done in the rural districts the result would be that the rural employer would be paying part of the wages of the employee in the urban districts, because he would be paying taxation, and the employer in the urban districts would be enabled, he presumed, to pay less wages. Therefore it was most important that similar facilities should be given in the rural districts for the provision of houses as were given in the urban districts.

Sir Henry Ballantyne Peebles, of the Scottish Smallholders' Organisation Society, Ltd., said in the recommendations of the Housing Commission they would find a very practical means of solving the difficulty. They suggested that the duty of helping the crofter to provide a decent house lay on the Board of Agriculture. With regard to public health the duty lay with the Local Government Board and the local authority, and he thought these three bodies, working in conjunction and with sufficient grants of money, could provide decent houses for the crofter. If they gave grants to town councils they ought to give them to the Board of Agriculture to provide houses for the crofter.

Dr. Dick, medical officer to Sutherland County Council, said in Caithness and Sutherland 50 to 60 per cent. of the houses in the crofting districts were insanitary. Yet their health returns compared favourably with those of any other district. It was possible, therefore, to have a healthy community though the ordinary sanitary requirements were somewhat relaxed.



CHURCH TOWER, WHITCHURCH.

(From a soft-ground etching by Samuel Prout.)

the country they could have a thoroughly healthy house without all the stipulations laid down in the ordinary building regulations.

Finally, Lord Lovat, who represented the Highland Reconstruction Committee, moved the following resolution:

"That the immediately important question before the meeting is the building of new houses and the improvement of old houses for rural workers, including houses for farm servants, crofters, occupying owners, feuars, and long leaseholders; and that the question cannot be adequately faced unless the principle of direct grants to individuals prepared to build or improve houses is accepted, and that the direct grants should be adequately safeguarded, so as to make certain that the housing of the working people and not the profit of the builder is the first consideration."

The Secretary for Scotland suggested it might be convenient to take the resolution in two parts, as while the first part might be acceptable to all, there might be some not prepared to accept the second part.

The first part of the resolution was put to the meeting and carried unanimously. The second part was also adopted, about six voting against it.

THE SOCIETY OF ARCHITECTS.

At a meeting of the Society of Architects, held at 28, Bedford Square, W.C.1, the following were elected members:

Major Harry Barnes, M.P., London; Herbert Frank Bottome, London; Frederick George Coates, Grays, Essex; Ernest Harcourt Edleston, A.R.I.B.A., Nantwich; Llewellyn Charles Edwards, Colwyn Bay; William Gilbert, London;

Frederick William Charles Gregory, Nottingham; Harold Vincent James, London; Albert Peregrine Lloyd, A.R.I.B.A., Swansea; Herbert Percy Maxwell, Scarborough; Henry Paul, London; William Herbert Pearson, Luton; Walter Rudman, Chippenham; Robert Wortley Graeme Russell-Walker, Brighton.

The congratulations of the Society were conveyed to Sir Charles T. Ruthen, O.B.E., Member of the Council, on receiving the honour of Knighthood; to Lieut.-Colonel Peter G. Fry, C.M.G., D.S.O., R.E., on being awarded the C.M.G.; Mr. Fergus Carstairs Rogers, of Kimberley, on receiving the M.B.E.; and Mr. R. M. Butler, of Dublin, on his recent election to membership of the Royal Irish Academy.

The report of the Society's delegates at the recent Building Industry Conference was received, and Mr. Edwin J. Sadgrove, the President of the Society, was nominated as the Society's official representative on the Building Industries Consultative Board.

As a result of the communication made to the local authorities on the question of the employment of architects on housing schemes made by it, the Society was being invited from time to time to submit the names of local architects for the carrying out of the work. A supplementary circular dealing more particularly with the proper remuneration of architects is being issued.

The Society is co-operating with the Post-War Committee of the American Institute of Architects in making an analysis of the conditions affecting the practice of architects and with the Ministry of Labour (Appointments Department), in dealing with the future of ex-officers by delegating

members of the society on the District Selective Committees throughout the country.

The reports of the society's representatives on the London Society and the conference on the testing of materials were received and dealt with. Suggestions, together with financial support, are coming in from members in regard to the society's proposed war memorial, the form of which is under consideration.

A communication from the South African branch of the society was received dealing with the statutory registration of architects, and showing the active part which that branch is taking in the question of extending statutory registration, at present confined to the Transvaal, to the Union of South Africa.

The Secretary reported progress in every department of the society's work. The applications for membership were increasing, and the various details of the development scheme were gradually being perfected. He now had the co-operation of the newly appointed assistant-secretary, Captain M. G. Kiddy, late R.A.F., who also presented a report showing the progress which had been made in the particular work allotted to him, and indicating further possibilities for increasing the scope and utility of the society.

CONCRETE CONSTRUCTION AND OBSTRUCTIVE BY-LAWS

The long-suffering public, says, irrefragably, a writer in the "Sheffield Daily Telegraph," believe that houses erected are preferable to housing schemes in the pigeon holes at the Local Government Board Office. It is estimated on excellent authority that the house shortage will continue for the next ten years. Why? Because the Government and the local authorities—they are tarred with the same brush—will not or cannot perceive that the archaic methods of building which have obtained since the Neolithic age are out of date and unable to cope with the demands of a progressive era. All the conditions of the moment are anti-pathetic to the old system of brick building. Bricks cost a fabulous price, skilled labour demands inflated wages, materials of all kinds are scarce and expensive, and, more important than all these, time is on the wing, and the patience of people who are without homes is rapidly evaporating.

Is it surprising, therefore, that the progressive thinkers on this subject have focussed their energies to find other and speedier means to remedy the situation? Those who have set themselves in the vanguard of progress and see the needs of the country in its true perspective have with one accord turned their thoughts to concrete. Concrete is not new. Some of the finest buildings in the world have been built of concrete, and have stood the test of time and the vagaries of the weather. In this country, however, concrete is comparatively new in the building of houses.

What is concrete? Here again is a stumbling block. Obsolete by-laws, interpreted by officials fettered with the bonds of red tape, have laid down certain specifications which they say must be adhered to if concrete dwellings are to be built. They decline to have anything to do with material which does not meet those specifications.

But the attitude of the local authorities is something like this. They say, "Concrete must contain gravel, or it is not concrete."



BRISTOL HOUSING COMPETITION: LAY-OUT PLAN OF PROPOSED HOUSING SCHEME AT FISHPONDS.

crete." Then comes along a Sheffield gentleman interested in this subject and says: "Here is a sample of concrete made with boiler ashes and cement. It is as hard as iron, you can kick it about if you like. The longer it remains in your office the harder it becomes." But the local authorities say: "Unless you conform to our specifications you must not build."

Anything more obstructive to progress can scarcely be conceived. By-laws which are not sufficiently elastic for the needs of the age should be scrapped, and a new set installed which would give the enterprising pioneer the opportunity to help solve the housing problem.

OFFICIAL HOUSING MANUALS.

The Board of Agriculture and Fisheries, in order—it might seem—not to be outdone by the Local Government Board, has issued a manual "for the guidance of county councils and their architects in the equipment of small holdings." To the uninitiated it would appear that this is somewhat characteristic of the prolific tendencies of Government departments, which have been the subject of so much criticism of late. Why, one is moved to enquire, could not a single department be left to deal with the whole matter, which could then have been treated in a comprehensive publication. There is, however, some consolation in the knowledge that the spirit of rivalry, with its consequent attempts towards emulation, is not extinct even in Government offices.

The plans, two of which are reproduced herewith, are, as might be expected, of a slightly different type from those with which we have hitherto been familiar, for there is little opportunity in small holdings for combining the dwellings and, consequently, the single type of house predominates, although examples are given in the publication of pairs of cottages.

Avoiding such controversial points as the position of the bath and the like, the designs are for the most part simple and workmanlike, although considered economically they are capable of further refinements, especially, it would appear, with regard to the roofs, which in many cases seem to be unnecessarily complex. It would almost seem, however, that the simple roof is only to be obtained economically by the employment of a very low pitch, which is glaringly inharmonious in certain landscapes or when constructed in certain materials. The high-pitched roof must either be wasteful in material or complicated in design. The necessity for economy under this heading appears to be realised, however, for it is the subject of a paragraph in the introduction. Another item in which a slight saving (and what appears a negligible item on a single house, assumes a surprising figure in a scheme of several hundred houses) might be effected is in the matter of water mains. The copper, sink, and bath are not always in sufficient proximity. Despite these small points, the manual should prove useful to local authorities and others contemplating the erection of this type of dwelling.

H. J. B.

FORTHCOMING HOUSING EXHIBITIONS.

Liverpool.

The Liverpool Architectural Society, in conjunction with the "Liverpool Daily Post," propose to hold an exhibition of modern materials and appliances which are employed in the building of small houses and cottages. It is hoped that the exhibition will take place in July, and it will remain open for a week.

The promoters have no intention of making it a trade show of the ordinary kind, in which exhibits are retailed on the premises. Neither do they intend to

display such accessories as furniture and domestic utensils, which are not germane to their immediate purpose. That purpose is to demonstrate how a small house can be soundly constructed at as low a cost as possible, and the scope of the exhibition is, therefore, limited to those building materials, and those fittings that may be roughly classed as parts of the house itself.

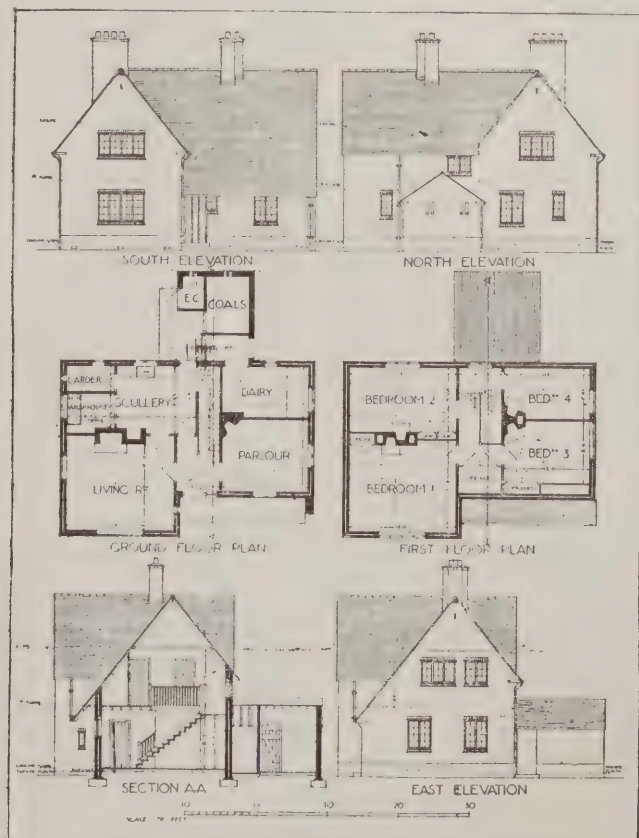
It is intended to provide everyone interested with the opportunity of seeing the best and newest materials for use in the construction of floors, walls, and roofs, together with examples of modern fireplaces, sanitary fittings, heating and lighting contrivances, patent doors and windows, and similar articles.

Glasgow.

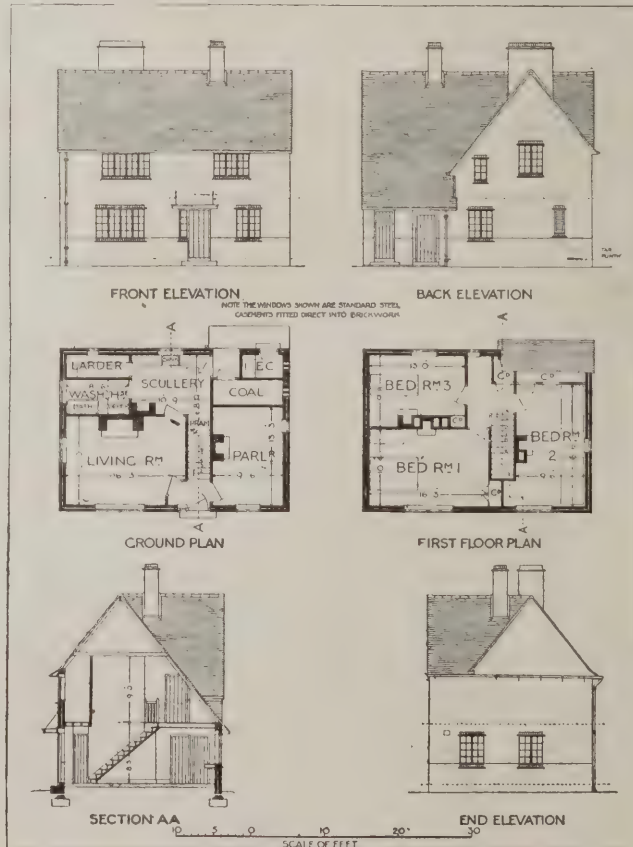
In connection with the Housing and Health Exhibition which the Glasgow Corporation are promoting to be held in the Kelvin Hall of Industries in the autumn, designs are now being received from architects, civil engineers, and others for the housing competitions. The most important of those is the laying-out of the lands of Kennyhill, Niddrie, Blackhill, and Lethamhill, belonging to the Glasgow Corporation. The lands extend to about 250 acres, and are to be designed so that the average density will not exceed twelve houses per acre, provision to be made for sites for public buildings, such as churches, schools, halls, etc., and for children's playgrounds, bowling greens, open spaces, etc.

The drawings include plans and sections of various types of houses proposed. They may include cottages, self-contained terrace houses, not exceeding two storeys in height, and two-storey blocks of flatted houses.

[Birmingham Exhibition, which is to be opened on July 9, is dealt with in our editorial columns, page 5.]



SINGLE SEVEN-ROOM COTTAGE.



SINGLE SIX-ROOM COTTAGE.

(From "Manual on Equipment of Small Holdings.")

Premiums of £400, £250, £150, and £100 are to be awarded for the four best designs in order of merit.

For the laying out of 19 1-3 acres of land belonging to the Corporation at Coplawhill premiums of £150, £100, and £50 are to be awarded. The general lay-out plan is designed for an average density not exceeding twenty-four houses per acre, accompanied by plans and sections of houses, which will be in blocks of three-storey tenements, having not more than six houses entering by one common stair. Similar premiums are awarded for designs for houses at Mossbank, Bellahouston, belonging to the Corporation, while £200, £100, and £50 will be awarded for the three best designs for laying out an area of about 520 acres of land situated between Littleston and Tollcross, not belonging to the Corporation, and partly outside the city. Premiums of £100, £50, and £25 are also given for a model with relative plan of semi-detached cottages of four or five apartments each. Similar sums are given for plans of houses so fitted and equipped that there will be a minimum of movable furniture to be provided by the tenant.

The last day for receiving the designs and models is July 31.

It has been decided that at the housing exhibition at which these designs will be displayed, a number of model cottages will be erected, the internal work, such as decoration, furnishing, heating, lighting and sanitary fittings, being undertaken by firms exhibiting at the show.

WEEKLY HOUSING RETURN.

The weekly return of housing progress issued by the Local Government Board states:

New housing schemes submitted to the Board during the week ending June 21 numbered 270, as compared with an average taken over the previous fifteen weeks of 147. They bring the total number of schemes submitted to the Board to 2,538, representing an area of more than 30,000 acres—land sufficient for the erection of more than 300,000 houses.

The house plan schemes submitted during the week numbered twenty, representing nearly 3,000 houses, bringing the total number of house plan schemes submitted to 225, representing 17,720 houses. Plans for more than 7,000 houses have been approved.

The week has seen a start in actual building in a considerable number of cases additional to the 1,234 houses reported in last week's return, and steps have been taken by the Board to ensure regular periodical reports from all districts as to further progress in building operations. It has become evident that the extent to which rapid progress may be made in building largely depends on the provision of labour, and this side of the housing problem is being thoroughly gone into by the Board in conjunction with the Ministry of Labour and other Government Departments concerned.

Difficulties have also arisen in some places over the transport of building material. The Building Materials Supply Department of the Ministry of Munitions have been in negotiation with the railway companies, and have obtained from them assurances of willing co-operation in steps to overcome this difficulty.

The advantages of utilising the services of the Inland Revenue land valuers in negotiations for the purchases of land are becoming more fully appreciated by the

promoters of housing schemes. Considerable reductions in price can often be obtained by this method. A return of nine cases in which the Board objected to the prices for land agreed upon between local authorities and land owners and insisted upon valuation by a Government valuer shows a saving in all of nearly £32,000. A summary of this return may be of interest. The prices asked and provisionally agreed upon between land owners and local authorities amounted to £101,680. Government land valuers estimated the value of the land at £64,502. The prices for the land finally agreed upon and approved by the Board amounted to £69,808, a saving on the original price of £31,872, the average saving per acre being £168. It was as high as £495 per acre in one case.

Details of the schemes submitted by local authorities during the week are as follows:

Building Sites.

Schemes Submitted.—The number of schemes submitted by seventy-seven local authorities was 265, bringing the total number of schemes to 2,493.

Schemes Approved.—Fifty-five schemes were approved during the week, representing 960.02 acres. This brings the total number of local authority schemes approved to 719, representing 11,758 acres.

Lay-outs.

Schemes Submitted.—During the week twenty-four lay-out schemes were submitted by twenty-one local authorities, bringing the total number of schemes submitted to 331.

Schemes Approved.—Twenty schemes submitted by sixteen local authorities were approved during the week, bringing the total number of schemes approved to 162.

House Plans.

Schemes Submitted.—Sixteen schemes, representing 594 houses, were submitted by fourteen local authorities during the week. This brings the total number of local authority schemes submitted to 207, representing 13,702 houses.

Schemes Approved.—Fourteen schemes representing 849 houses were approved during the week, bringing the total number of schemes approved to 128, representing 6,885 houses.

DR. ADDISON ON HOUSING.

In the course of an interview with newspaper correspondents, the new Minister of Health (Dr. Addison) briefly elaborated in a few particulars the aims and objects of the new Ministry of which he is the head. "It is understood that the housing question will come under the new department?" he was asked. "That is so," said Dr. Addison. "Indeed, the promotion and control of housing will be one of the most important duties. I am glad to say that the housing situation is improving. A short time ago we issued to local authorities a simple inquiry form asking for precise information as to the building now going on, or about to be started, in their area. I hope to issue a report on the subject at the end of the present week. It is clear from the information we have already received that some thousands of houses are at present in process of construction; indeed, more than I expected."

"Working-class houses?"—"Houses which come within the purview of the Ministry. Sheffield, for instance, has started on 650. In certain parts of York-

shire considerable activity prevails. But I do not mention these as special instances—only as instances of the laudable activity which we hope to see general.

"As you know, I have just been round the country, and I was able to appreciate the difficulties of the moment before the local authorities. It is not difficulty about bricks and materials so much. There is plenty of that. But the vast majority of the authorities are without adequate staff to do the work of laying out plans and preparing specifications. Not all their men are demobilised. Again, some authorities which only built a few houses before are now called upon to scheme upon a larger scale, which requires more time and thought. But the site plans already proposed will provide for considerably more than 100,000 houses. So there is plenty of work to be going on with.

"We are encouraging authorities to start on such portion of their schemes as may be practical without waiting for their complete scheme to be perfected.

"I also anticipate that before long we shall be finding ourselves having to make special arrangements with regard to labour. The chief limiting factor in regard to the building schemes in view is the shortage of labour, or, more strictly speaking, of skilled labour. There are 200,000 fewer people in the building trade than before the war. Of the special arrangements with regard to labour to which I refer, I would, however, prefer to speak more fully another time.

"Many authorities, and others, are being asked to build two and three times as many cottages and houses of the kind required that they have done before.

"My information up to June 14 shows that work in actual house construction has been commenced by local authorities upon 884 houses; that work upon streets has been started by fifteen other authorities; that other schemes for 11,000 houses will probably be started within a few days' time; that public building societies have started upon 328 new houses; and that 1,650 new houses are being built by various forms of private enterprise."

The Health Programme.

"With regard to future public health schemes, the object of the new Ministry is, of course, to provide better health services throughout the country, and we are now working on our health programme; and various proposals will be submitted to the Consultative Councils at no distant date. Indeed, I hope we shall be able to get some of our proposals under way this year. Some of them, of course, will not call for legislation. Maternity and child welfare centres are being started; also venereal disease centres, of which we shall want at least a thousand. The tuberculosis work is to be greatly extended.

"I am very gratified to be able to announce that the Canadian Red Cross have most generously given to the nation two excellent hospitals—one at Bushey and one at Taplow—with accommodation, between them, of between 700 and 800 beds. The gift has been made through the King, who has also assigned the use of the Crown land at Bushey, upon which one of the hospitals is built, together with a lodge, of which His Majesty has most generously made a gift.

"The Taplow hospital will be removed to the environment of Birmingham. The Bushey hospital will be under the control of the London County Council for their London children."

CORRESPONDENCE.

Wind Pressure on Columns.

SIRS,—In reply to your correspondent, "L.R.I.B.A.," the table A is correct if W be taken as weight of tank, filling, circular beams, and columns, divided by the number of columns, or, in other words, W = the total load on one column.

HENRY ADAMS.

Cube Cost of Building.

SIRS,—Mr. A. H. Belcher's article in your current issue on the approximate cost of building by cube is of considerable interest, especially at a time like the present, when the approximate cost of a proposed building is desired before quantities can be prepared.

There is one point, however, on which Mr. Belcher appears to be a little misleading, viz., to arrive at the cubical contents he states: "The measurements taken should be the length of the building, multiplied by the depth, and the result multiplied by the height, the latter taken from the bottom of the footings or the top of the flat roof, or, if a span roof, then half way up the roof between the eaves and the ridge."

In a building with a flat roof measured in this way, what is there in the cube to pay for an expensive lead flat or concrete and asphalt flat? The height in every case should be measured as though the building had a span roof. Any difference in cost between a flat and pitch roof can be considered in the valuation, but the cube measurement must be sufficient to cover cost of roof.

All will agree with Mr. Belcher that tendering without quantities is not a satisfactory method, except for the few whom we shall probably always have, wanting to build and trying to obtain something for nothing.

W. M. HILL.

Crown Works, South Lambeth Road,
London, S.W.8.

Swanpool Co-operative Housing Society, Ltd.

SIRS,—My attention has been drawn to an article in your journal of the 11th inst. under the heading, "Co-operative Housing at Lincoln."

Whilst the article is correct in a good many points, there are several instances where it is a little wide of the mark. In the first place, the houses are not mainly for the use of the employees of the engineering firm of Messrs. Ruston and Hornsby, Ltd., but are intended for the whole of the citizens of Lincoln who are desirous of joining the society. There is no connection whatever between this society and Messrs. Ruston and Hornsby, Ltd., as a firm, except that this firm are sympathetic towards our movement and are desirous of assisting in every possible way, having promised to subscribe £10,000 in Loan Stock. Two of this firm's directors, Colonel Ruston and Mr. Sharpley, are among the promoters of this society, and whilst they are financially backing the scheme to a considerable extent, it is not quite correct to say that they have subscribed £100,000 in Loan Stock between them.

There will be three shopping centres in this new suburb, and it is quite possible that the local Co-operative Industrial Society, Ltd., will have shops on the estate, it can by no stretch of imagination be said that they are to run the whole of the shops.

The salient features of our scheme are central heating and electric lighting. We

are proposing to erect a central power station for these services. The waste heat and steam from the central heating plant will be utilised in generating electricity and not the waste heat and steam from the above firm's works.

I thank you for this opportunity of correcting the inaccuracies enumerated above.

R. E. CREASEY, secretary.

[In a future issue we hope to have an opportunity of reproducing some plans of the scheme to which our correspondent refers.—EDS. A.J.]

COMPETITIONS OPEN.

July 14.—Penzance: Designs for War Memorial.

£25 is offered for selected design. Cost not to exceed £2,000. Panels required for 200 names. Designs, with estimated cost, to be submitted under a nom-de-plume to C. E. Venning, 58, Morrab Road, Penzance.

September 29.—Incorporated Institute of British Decorators.

The Institute is offering two travelling studentships of £25 each for competition. The drawings must reach the Secretary of the Institute, Painters' Hall, E.C.4, not later than September 29, 1919. Further particulars may be obtained from the secretary.

September 29.—Bridlington: War Memorial.

The War Memorial Committee invite designs for a war memorial. Premiums £100 and £50. Sending-in day, September 30. Particulars from the secretary, 79, Quay Road, Bridlington.

No Date.—Liverpool: Reconstruction of Pierhead.

The Corporation Reconstruction Committee invite competitive architectural designs for the reconstruction of the pier-head site. Premiums of 1,000, 500, and 250 guineas are to be offered.

COMPETITION CLOSED.

Panteg Urban District Council's (Monmouthshire) Housing Scheme.

This competition was for the lay-out of the Kenneys Vawr Estate of thirty-six acres. The award of the assessor, Professor Patrick Abercrombie, M.A., A.R.I.B.A., is as follows:

First premium, Messrs. Thomas and Morgan, Pontypridd.

Second premium, Messrs. Cyril F. Bates and Colin L. Jones, Newport, Mon.

BUILDING INDUSTRIES
CONSULTATIVE BOARD.

The first meeting of the Building Industries Consultative Board took place at 9, Conduit Street on June 25. The chair was taken by Mr. Henry T. Hare, P.R.I.B.A., the other members of the profession present being Mr. J. W. Simpson, Mr. Ernest Newton, R.A., Major A. Barnes, F.R.I.B.A., M.P., and Mr. E. J. Sadgrove, F.R.I.B.A. The Surveyors' Institution was represented by Mr. Dendy Watney and Mr. F. H. A. Hardcastle, and the National Federation of Building Trades Employers by Mr. A. H. Adamson, Mr. R. B. Chessum, Mr. J. B. Johnson, Mr. E. J. Hill, and Mr. F. L. Dove. The National Federation of Building Trade Operatives sent six members: Mr. J. P. Lloyd, Mr. D. Haggerty, Mr. T. H. Goodey, Mr. S. Stennett, Mr. J. Murrey, and Mr. T. Oxley.

Mr. J. P. Lloyd was elected as vice-chairman. Papers were read by various

members, and were followed by a discussion, the whole proceedings lasting nearly three hours. Before the meeting adjourned a resolution was passed in which it was decided to establish relations between the Building Industries Consultative Board and the Whitley Industrial Council.

The next meeting is to be held on Tuesday, July 8, at 11 a.m.

ARCHITECTURAL ASSOCIATION
NEW COUNCIL AND OFFICERS.

The result of the ballot held at 35, Bedford Square, on May 26, was as follows: President, Maurice E. Webb, D.S.O., M.C., M.A., F.R.I.B.A.; vice-presidents, *Ralph Knott and *G. Gilbert Scott, A.R.A., F.R.I.B.A.; ordinary members of Council, *Detmar Blow, F.R.I.B.A., *Alfred Cox, F.R.I.B.A., *F. C. Eden, M.A., Cyril A. Farey, A.R.I.B.A.; *H. Farquharson, F.R.I.B.A., *S. K. Greenslade, A.R.I.B.A., *P. D. Hepworth, A.R.I.B.A., J. A. Slater, M.A., A.R.I.B.A., *A. Dunbar Smith, F.R.I.B.A., M. T. Waterhouse, M.C.; past-president, *H. M. Fletcher, M.A., F.R.I.B.A.; hon. treasurer, *Stanley Hamp, A.R.I.B.A.; hon. editor "Architectural Association Journal," G. Fildes, hon. librarian, W. G. Newton, M.C., M.A., A.R.I.B.A.; hon. secretary, *E. Stanley Hall, M.A., A.R.I.B.A.

Members of the Council for the past year are marked with an asterisk.

MEMORIAL TO THE OFFICERS
AND MEN OF H.M.S. MAIDSTONE.

On Thursday, June 26, the dedication took place in Shotley Churchyard of the memorial erected to the memory of the officers and men of H.M.S. Maidstone (submarine service) who lost their lives in the war.

The memorial is from the design of the honorary architect, Mr. A. H. Ryan Tenison, F.R.I.B.A., of London, the figure and special features being modelled for him in the studio of Mr. F. Brooke Hitch, and some of the castings being executed by the men of H.M.S. Maidstone, under the superintendence of Engineer-Commander Ham, R.N. The memorial, which stands in a special compound, consists of a Portland stone obelisk, with octagonal base, and bronze dolphins as terminals, and bronze plaques. The compound is enclosed by carved oak posts and rails, the whole being approached through a lych-gate at the east end of the enclosure. The lay-out has been specially considered with the object of providing each grave with a cross or headstone, the whole being treated as a special garden cemetery.

COMING EVENTS.

TUESDAY, JULY 8.

Second meeting of the Building Industries Consultative Board, at 9, Conduit Street, W. 11 a.m.

WEDNESDAY, JULY 9, TO SATURDAY, JULY 19.

Birmingham Housing Exhibition, Town Hall, Birmingham. Address, Hon. Organiser, Chamber of Commerce.

SATURDAY, JULY 12.

Architectural Association summer visit. Knole, Sevenoaks, by permission of the Right Hon. Lord Sackville. Charge for admission, 1s. Train from Charing Cross, S.E. and C.R., 2 p.m.

R.I.B.A. REVISED SCALE OF PROFESSIONAL CHARGES.

As a result of the general meeting held on May 12, a revised scale of professional charges has been drawn up by the Institute, and has now been published. As this memorandum will doubtless be widely circulated, both amongst the members and elsewhere, we shall not here do more than reproduce the more essential points that are new.

In the "Conditions of Engagement" there appears to be no substantial alteration, and it is in the "Scale of Charges" that the important changes are to be found.

In Clause 1 the following paragraphs appear: (a) If the contract or order exceeds £2,000 the percentage is to be 6 per cent. (b) If the contract or order does not exceed £2,000 the percentage is to be 10 per cent. in the case of works costing £100 graduated to 6 per cent. in the case of works costing £2,000 as the special character of such works may render appropriate.

In Clause 5: (a) For taking client's instructions, preparing sketch design, and making approximate estimate of cost by cubic measurement, or otherwise, one-fourth of the percentage stated in Clauses 1 or 2 (as the case may be) on the estimated cost of such works.

(b) For taking client's instructions, preparing sketch design, and making approximate estimate of cost by cubic measurement, or otherwise, and preparing drawings and particulars sufficient to enable quantities to be prepared or a tender obtained, two-thirds of the percentage stated in Clauses 1 or 2 (as the case may be) on the estimated cost of such works.

Clause 9, which deals with housing schemes and laying out estates, provides: In fixing the scale of charges for development of land, or for housing schemes, a special arrangement will usually be required according to circumstances but for ordinary cases the following are the charges: (a) For the preparation of a plan or scheme from existing maps, showing roads, building plots, and buildings in block, and including conferences with officials of local authorities, but not including surveying, levelling, contouring, or the preparation of detailed plans of buildings, the remuneration is as follows: For the first twenty-five acres, two guineas per acre; on the next 275 acres, one guinea per acre; on the remainder, five shillings per acre; minimum charge, twenty-five guineas.

(b) For preparing working drawings and specification of roads and sewers, obtaining tenders and advising on the same and in the preparation of contract, furnishing to the contractor one copy of the drawings and specification, general supervision as before defined, issuing certificates, and passing and certifying the accounts, the charge is 5 per cent. upon the cost of the works. Should the works not proceed after the preparation of the drawings and specification the charge is 3 per cent. upon the estimated cost. (c) In housing schemes the charge, for the services mentioned in Clause 1, is 5 per cent. upon the first twelve houses, 2½ per cent. upon the next sixty, and 1½ per cent. upon any remainder. This percentage covers the ordinary variations in type of house, and such minor modifications as are made to avoid monotony in appearance.

This scale is not necessarily applicable if the carrying out of the work is effected in instalments and consequently deferred over a long period of years.

Clause 10 deals with the approval of lessee's plans and states:

For approving plans submitted by a lessee and for inspecting the work during its progress so far as may be necessary to ensure the conditions being fulfilled, and certifying for lease when required, the charge is as follows: For each £100 or part of £100 of the total cost up to £500, 2½ per cent., the minimum fee being £3 3s. For each £100 or part of £100 from £500 up to £5,000, 1¼ per cent. For each £100 or part of £100 above £5,000, one guinea per cent.

Class 14 deals with quantities and contains the following paragraphs: (a) For taking out quantities and preparing bills of same, the charge is 2½ per cent. upon the estimated cost of the work up to £5,000, and 2 per cent. upon the cost above £5,000. (b) For very small or for elaborate works, or for alterations, an increased percentage is charged according to the circumstances. (c) For taking out quantities for housing schemes the charge is 2 per cent. upon the cost of the first twelve houses, 1 per cent. on the next sixty, and ¾ per cent. upon the remainder. These charges are not necessarily applicable if the carrying out of the work is effected in instalments and consequently deferred over a long period of years.

Clause 17 says that "for valuing and negotiating the settlement of claims under the Lands Clause Consolidation Acts or other Acts for the compulsory acquisition of property, the remuneration is on Ryde's scale."

Clause 18 contains the following information:

For negotiating the purchase of estates and property, and advising as to value if required, the charge is as follows: For the first £100, 2½ per cent.; for each £100 or part of £100 of the purchase price from £100 to £5,000, 1¼ per cent. For each £100 or part of £100 of the purchase price above £5,000, ¾ per cent. Where more than one property is dealt with, a separate fee for each may be charged. Where no purchase is effected, the usual fee for valuation will be charged.

TRADE AND CRAFT.

The "Lady-Maid" Kitchen Cabinet.

This cabinet, to which we drew attention in our issue of June 4, we now illustrate. Special features of the cabinet are its cheerful appearance, derived from goodly shape, excellent material, and sound work-



THE "LADY-MAID" KITCHEN CABINET.

manship; its rounded corners and enamelled surface, which make it easy to clean; its dust-proof drawers and cupboard doors; its oak rolling shutters to close in the lower part of the top portion—they are never in the way, as they roll off the scene when not on duty; its special drawer for cutlery, divided into baize-lined compartments; its lower cupboard (for pots and pans), with removable tray, shelf of galvanised wire mesh, and, fixed to the door, a basket for lids; an extending table with porcelain-enamelled iron surface which never needs scrubbing—wiping with a damp cloth is sufficient to keep it thoroughly clean and sanitary; special catches ensure that when a door is pushed to it fastens itself. The accompanying illustration shows its comely shape; how it looks with its plinishings in place may be seen on reference to page lii. of our issue for May 28. It is made in three grades, known respectively as the Worker, Standard and De Luxe. The vendors are the Lady-Maid Kitchen Cabinet Co., 80, Victoria Street, Westminster, S.W.

ENQUIRIES ANSWERED.

Removing Old Paint.

B. G. (Brixton) writes: "As burning-off lamps are now extremely dear, I write to ask whether the advertised paint-removers are really effective?"

—They are; but those that we have tried have convinced us of the necessity for handling them with the utmost care. Unless they are watched with the utmost vigilance, they will destroy not only the old paint, but the woodwork as well, and likewise, the operator's boots and garments, and the skin on his hands, unless he is very careful. Used with discretion, however, the paint-removers are very serviceable, but after the old paint has been scraped away the woodwork must be most thoroughly cleansed, not only to prevent its destruction, but to prevent also the ruin of the new paint applied to it. Paint-removers, therefore, we regard as being only too thoroughly effective; but if they are employed with the necessary caution they are no doubt extremely useful.

Origin of Wall-coverings.

VIGNETTE (Shepherd's Bush) writes: "In a recent issue of your journal I saw an editorial note referring to the probable extensive abandonment of wallpaper consequent on its enhanced cost and on the growing preference for sanitary paint. Could you inform me when wallpaper first became common in this country? Am I right in assuming that it was imported from abroad?"

—Tapestry, put up at first to keep out draughts, but afterwards used chiefly for decorative effect, was known in this country in Saxon times. Queen Ethelburga speaks with scorn to Ina of his fondness for the tapestries dipped in Sidonian dye. In the thirteenth century it became the custom to panel the lower part of walls with oak wainscoting, the upper part of the walls being coloured or decorated, the nobility employing artists to depict histories on the roofs and behind the dais. Henry III. caused a man to be painted on the wall of his great hall at Winchester; but tapestry from Arras and Brabant was much in use in the homes of the wealthy from the thirteenth century onwards, until printed or painted cotton from Holland gradually superseded it. Textiles were at length superseded by paper imitations imported from Holland; and in 1751 India-paper hangings were being advertised.

The Week's News from Far and Near

Proposed Widening of Old Broad Street, London.

The Corporation of London proposes to widen Old Broad Street on the south side at an estimated cost of £220,000.

Resumption of Practice.

Mr. H. Townshend Morgan, architect, having been demobilised, is resuming practice at 88, Gower Street, W.C.1. Telephone: Museum 798.

Newcastle Housing Schemes.

The Newcastle Corporation Housing Committee have opened up negotiations for the purchase of land at the east and west ends of the city for housing schemes.

Scottish Building Trades Demand.

The trade unions concerned in the Scottish Building Trade Wages Board have made application for an advance of 3d. per hour for all their workers.

Rebuilding at Ipswich.

The Ipswich Malting Company, Ltd., are now reinstating (after fire) their No. 3 Malting at Ipswich, under the direction of Mr. F. W. Skipper, architect and surveyor, 55, London Street, Norwich.

New Houses at Maldon.

The Maldon (Essex) Rural Council have passed resolutions to acquire sites for eight houses at Cock Clarks, Purleigh, sixteen houses at Tolleshunt D'Arcy, and eight houses at Mundon.

Dundee Housing Scheme Approved.

The Local Government Board has now definitely approved of the plans of Logie housing scheme—the first municipal housing scheme in Scotland—and building operations will be begun almost immediately.

Architectural Partnership.

Mr. W. Naseby Adams, A.R.I.B.A., having arranged a partnership with Mr. Ernest Emerson, A.R.I.B.A., is resuming practice at Carlton Chambers, 4, Regent Street, S.W.1. Formerly Mr. Adams was a partner in the firm of Messrs. Campbell and Adams, 51, North John Street, Liverpool.

Victory Square at West Hartlepool.

West Hartlepool has decided that its war memorial shall take the form of a large victory square, on one side of which suitable buildings of a public nature are to be erected. Cottage homes for the aged and disabled are also to be built in the town.

Chiswick War Memorials.

Chiswick war memorial is to consist of an arch of remembrance and victory, to be erected at the east end of Turnham Green Common, and of homes for disabled soldiers and sailors and their dependents. The number of houses erected will be regulated by the response to the request for subscriptions.

Housing Scheme at Bray, Ireland.

The Bray (Ireland) Urban Council have made preparations for an extensive housing scheme for the working classes in the town. It is to consist of two sections—the erection of new houses on virgin soil and the demolition and clearance of slum areas. The Local Government Board have been supplied with details of the scheme, which at present provides for 240 new houses.

Society of Antiquaries and the Housing Bill.

The Society of Antiquaries has passed a resolution expressing the hope that Parliament will insert an amendment in the Housing Bill to safeguard the natural beauties, the architectural interest, and the historical associations of our existing ancient buildings and their surroundings.

L.G.B. Rejects Hanwell Scheme.

The Local Government Board has refused to sanction the purchase by Hanwell Council of forty acres of land from the Earl of Jersey, at a cost of £18,500, on the grounds that the price is exorbitant and that the land, situated near a sewage disposal works, is unsuited to the erection of workmen's houses.

Cambridge and Housing Scheme Loans.

The Cambridge Town Council have passed a resolution to the effect that in order to enable rapid progress to be made with housing schemes, loans required by the local authorities should be provided from national sources and advanced at reasonable rates of interest.

Disused Church Collapses.

An old disused church in Spring Garden Lane, Sunderland, has collapsed, and is now a complete ruin. The building was built in 1765 by the Presbyterian congregation, who abandoned it in 1843 for another edifice. Afterwards it was used by the Salvation Army, but it has stood empty for some time, and had been condemned by the authorities.

Proposed Aldgate Clearance.

The Sanitary Committee of the City of London Corporation recommend that the group of houses, over one hundred in number, in the Hutchison Street area off Aldgate, be declared unhealthy and dealt with under the Housing of the Working Classes Act, 1890. The medical officer had reported that the narrowness, closeness, and bad arrangements of the houses were dangerous to the health of the inhabitants.

Country Homes Offer.

Every purchaser of one of the new houses about to be built by the Metropolitan Railway Country Estates Company in the districts of Neasden, Wembley Park, Rickmansworth, and Chorley Wood will have free possession of an acre of land. Other advantages include the purchase both of land and houses on easy deferred terms, and the planning of the homes in accordance with the requirements of the individual purchaser.

A "Good-Enough" Bridge.

The Commissioner of Works has called the attention of the Staines Rural District Council to the dangerous condition of the Queen's Bridge over the Cardinal's River at Longford. The surveyor said that the Council had previous negotiations with the Commissioner on the subject, and the attitude of the Department then was, in effect, "that the bridge was built by Cardinal Wolsey, and if it was good enough for him it should be good enough for us."

Whitgift Hospital Protected.

The Local Government Board have informed the Croydon Borough Council that they are not prepared to facilitate the acquisition of Whitgift Hospital or any part of it for street widening purposes, and

that if the Council promote a Bill for the acquisition of the hospital the Board would feel it necessary to place their views before any Committee to which that Bill was referred. The hospital was built by Archbishop Whitgift in the fifteenth century, and is one of the few remaining Elizabethan buildings in the country. It is in an excellent state of preservation.

City of London Housing Scheme.

The Improvements and Finance Committee of the Corporation are proposing to prepare a scheme for the provision of 2,200 houses outside the City precincts, to give accommodation to 11,000 persons, within a period of two years at a cost of two millions, the annual deficiency beyond the proceeds of a penny rate being defrayed by the Exchequer. The scheme will be framed in accordance with the terms of the Housing and Town Planning Bill when it becomes law.

Birmingham Housing Problem.

During a discussion on the Birmingham housing problem at a special meeting of the City Council, it was stated that the Corporation had nearly enough land for the erection of 10,000 houses, which at a cost of £800 each, involved a total expenditure of £8,000,000. On the basis suggested by the Government, the weekly rental of the houses, including rates, would be £1 1s. 8d. The hope was expressed that, in connection with some of the smaller estates, building would begin in a few weeks.

£4,000 Block of Limestone.

The largest stone ever quarried in the country has just been obtained in the Middleton quarry of the Hopton Wood Stone Firms, Ltd., Derbyshire. This monster block is 23 ft. long, 14 ft. high, and 10 ft. across, contains 3,434 cubic feet of limestone, and is calculated to weigh 286 tons. It is far too large to be lifted by any of the cranes in the quarry, and will have to be cut in three or four parts by means of steel wedges before it can be sawn into slabs. Four men quarried the mammoth stone from high up the quarry face, and the task of pushing it from its bed, by means of 20-ton screw-jacks, occupied a fortnight. The stone is to be used for architectural sculpture, and is worth in the rough £4,000.

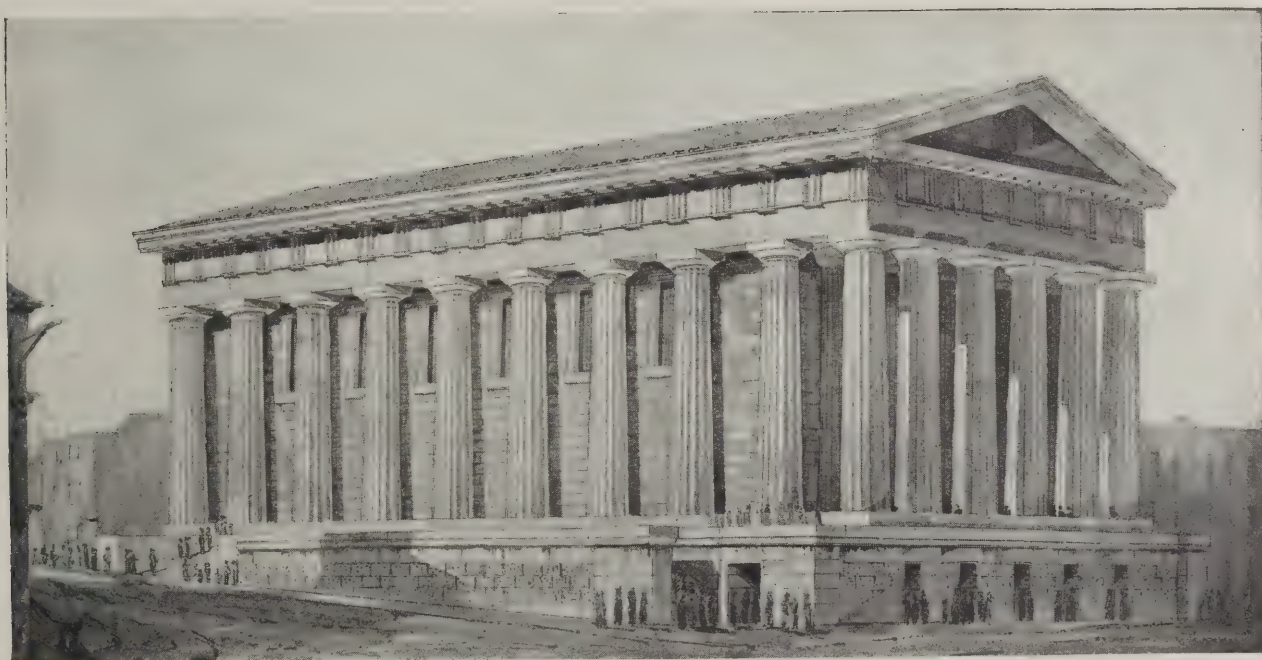
Surrey and the Housing Question.

At a meeting of the Surrey County Council at Kingston, the Public Health and Housing Committee presented a report on two joint conferences of local authorities on the subject of housing, and advocated a policy of co-operation with the County Councils of the Home Counties and London in dealing through a joint authority not only with housing problems, but, if necessary, with road transport schemes. They recommended that a conference of local authorities in Surrey be arranged to take place in London as early as practicable, at which the Housing Commissioner for the region (Mr. W. R. Davidge) should be invited, to discuss the question of housing generally in the county, and to appoint an advisory committee, if deemed desirable, with a view to the correlation of schemes drawn up and to be carried out by such local authorities. This course was agreed to. A conference will also be held at an early date on the "Greater London" proposals.

THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



TOWN HALL, BIRMINGHAM.

(From an original wash drawing—attribution uncertain—submitted or the competition.)



THE WATERLOO ROOMS, NOW THE COUNTY COURT, BIRMINGHAM. J. L. HORNRIOWER ARCHITECT. Photo: Thomas Lewis, Ltd., Birmingham.

THE ARCHITECTS' JOURNAL

Joint Editors: A. E. RICHARDSON, F.R.I.B.A., and J. FINDLAY McRAE.

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The Significance of Birmingham

WHEN one is fresh from a consideration of the Ways and Communications Bill at present before the House of Commons, it is interesting to remember that every town and city owes its growth to the fact that it has lain along some route. It will be remembered that some wiseacre was profoundly impressed by the fact that wherever there was a great city you found a great river. Great rivers make great cities. Great roads produce the same result, and none the less if they are rail roads.

There are two Birminghams—one in the United States. Both owe their material greatness to the fact that they lie at the junction of great railways. Somebody once accused a solecism by the assertion that fingers existed before forks, and it is true that roads existed before railways. In a long-settled country like our own the railways have followed the roads, and there can be no doubt that Birmingham, like every other aggregation of human beings in this country, commenced at the junction of roads which, passing through the counties of Warwickshire, Worcestershire, and Staffordshire, in some cases found their meeting-place here. Birmingham lies, like terrestrial Saturn, with its attendant satellites of Dudley, Wolverhampton, Walsall, and Wednesbury, some hundred miles from London. Not in the Black Country, but adjoining it, and doubtless it draws much of its vitality from its surroundings. Whether, like the Saturn of mythology, it will devour its children, and; pre-eminant in some larger unit of local government, come to exercise a larger share in the control of their destinies, remains one of the political administrative problems of the future.

There can be no doubt that in the new era we have entered, with its vastly increased conception of the functions to be performed by the State, whether acting from its central or local bodies, there is bound to be formed administrative areas larger than the existing county areas controlled by elected bodies upon whom will be devolved many of the administrative, and probably some of the legislative functions reserved now by Parliament to itself. Where such areas arise it is certain that the great cities will form the nuclei, the capitals of such provinces. That a provincial council will some day sit in Birmingham is a prophecy to which I am not afraid to commit myself.

If one regrets the Black Country, it is good to remember that Birmingham lies near the country of Shakespeare. It may seem a far cry from the women chain-makers in the chain-making industry to Rosalind in Arden, and yet the Forest of Arden is not far from the streets of Birmingham, and the imagination and fancy that plays through the works of Shakespeare have never been absent from the lives of the folk who have thronged those streets.

Birmingham has traditions in Art and Literature of which it need not be ashamed. In its art galleries and its libraries may be found collections which are sufficient to

prove that, in those activities which have built up its material prosperity, there has always been present a regard for those things to which, in the long run, all prosperity must be devoted if life is not to be bare of its bloom.

Birmingham is one of the great free cities of the world. It owes its greatness in every sense to the fact that it has enjoyed those conditions under which the great free cities of Italy and Germany reached their prime. It has never been under the dominating control of either Church or State. In Italy, as in Germany, it was only when the cities had secured themselves against the controlling influence of Pope and Emperor that they were free to develop in that rich variety which has left them memorable. Birmingham, the city of no great abbey, no proud castle, left in comparative security, came to its hour free to mould its own fate. Most of all the fact that no guilds had grown up under the patronage of abbot or lord left industry free to meet the new conditions. Clear of their hampering restrictions which, in the great period of Reformation and Renaissance, so retarded the growth of industrial activity, there grew up in Birmingham the industries which, in time to come, were to spread her name and fame throughout the whole world. They are curious factors that determine the location of great industries. Just as in great cities, or even small ones, quarters are established in which the several industries congregate—Lombard Street, in London, for the bankers; the Shambles, in York, for the butchers—so it would seem that in the country as a whole there are places which, for certain reasons, attract and group round themselves special industries. Beer is brewed at Burton; cotton spun in Manchester. The water at Burton, the atmosphere in Lancashire, are put forward as the reasons. Birmingham is the home of the metal-worker. Brass, gold, silver, gilt—in all these the cunning workers of Birmingham display their skill. Steel, it is said, was first worked in Birmingham, but fled to Sheffield. Cotton, spun early here, found no resting-place; the cycle industry removed to Coventry. Birmingham was not for these. To it we look for all those products of craftsmanship which are to adorn our buildings or our persons. The fittings of our houses, the rings upon our fingers, come from Birmingham, and in the earlier days all of them came in forms of great beauty. There were village Cellinis in those days, and in these, when we stand on the verge of the greatest building enterprise this country—perhaps the world—has ever undertaken, when we are to rehouse the people of this country, to erect dwellings which shall remain when we are gone, it is for Birmingham to prove itself worthy of the hour and to give us in the fittings which are to find their places in this new work, fittings that in quality and in form shall be “things of beauty and joys for ever.”

It can be done; it must be done. In this respect to some extent Birmingham is living on its past. It is reproducing those works which testified to the skill and sensi-

of form possessed by its craftsmen a century and a half ago. It is better that it should do this than continue its mid-Victorian failures, but it would be better still if, in these days, it could prove that the old artistic life was still vigorous, still competent to meet the new need of the day. That is Birmingham's special contribution to this particular task. It has made great contributions to the general life of the country. In no city of recent times has that civic spirit, which, to a city, is the same impulse that courage and aspiration are to the individual, been so marked. In civic activities, as in scientific, literary, and artistic, Birmingham has a great name. The name of Joseph Chamberlain serves to remind us that the outlook which reveals the possibilities of civic life may extend the revelation to that of a great Empire. The citizens of Birmingham have shown in every direction their con-

sciousness of their obligations. The great public services are in their hands and under their control. Education, that fundamental necessity of a democratic state, has, in their great University (almost the most recent of the country), an instrument which will tell profoundly upon the future of the great district of which this city is the centre; in its combination of industrial and intellectual activity, its free outlook on affairs, is a well-grounded reason for believing that the future of Birmingham will produce greater things even than its achievements in the past, and one may hope that those achievements will be evidenced in its peculiar products, that from this city, throughout the whole country, may go work which in their craftsmanship will not only rival but surpass their best traditions. We are firm in the faith that this will be so.

H. BARNES.

Notes and Comments

Our Special Birmingham Number.



THIS special Birmingham issue of the Journal has been prepared partly in furtherance of the objects with which the Birmingham Housing Exhibition is being held—that is to say, to stimulate the public interest in building, and to encourage traders to bring their inventions and improvements, or their articles of old-standing merit, to public notice—but more

especially to display the architectural interest of the city. It had long been our intention to show what Birmingham architects have done and are doing; and the holding of this exhibition provides apt and just occasion to give effect to this purpose. It is the baldest of platitudes to say that for art and craft, for trader and township, publicity is as the breath of life; or that the object of an exhibition is publicity, direct and indirect—direct through its own power of attraction, indirect through the help given it by the Press, without which it need not trouble to open its doors; but our sympathetic interest in the Birmingham Housing Exhibition met with a delightful response. We have to acknowledge the most charming courtesy and the most ready help from everybody to whom our purpose was made known; and we hereby tender our most hearty thanks to everybody—to the Lord Mayor, to the promoters of the exhibition, and to the leading architects of the city, including officers of the Birmingham Architectural Association—who has in any way co-operated with us in drawing attention to the architectural and industrial importance of the city of Birmingham. We should have been glad to include illustrations of the million-pounds housing scheme which the corporation has in view, but definite particulars are not yet forthcoming. Bournville, besides being outside the city, is sufficiently familiar to warrant its exclusion from an issue from which many interesting examples are perforce omitted or held over; and the scheme for re-planning the New Street station area has been already dealt with in our pages.

Housing for London.

Among the municipalities that have shown themselves sluggishly in the housing movement, London is conspicuous. Although the need for houses is as urgent in the metropolitan area as it is in most other large towns, the London County Council, which ought to set an example in such matters, has by no means risen to the occasion. It is simply not doing its duty in the matter of housing. So far, it has produced plans for only 211 houses; and these, although they were submitted to the Local Government Board at the end of last May, and were promptly passed, are not yet begun. It is declared by a writer in the "Daily Mail" of last Saturday that in providing for only 211 houses, whereas the most moderate estimate of London's need is fifty-five thousand houses urgently required, the London County Council has qualified as easily the most retrograde of all the large local authorities in Great Britain. Naturally all the metropolitan borough councils are infected with the sluggishness of the central authority, and are equally backward, with the doubtful exception of Wandsworth, which, although quite as inactive, has larger conceptions—is preparing to acquire 176 acres, on which it sees the possibility of building 2,100 houses. The excuse put forward by the London County Council reveals its old fatal tenderness for the pocket of the ratepayer. It is simply jibbing at the expense, and in that way is setting up the deadly infectious disease of financial cowardice, besides running the risk of other epidemics that may come more definitely within the purview of

the Ministry of Health. When the Health Bill comes before the House of Lords, Lord Downham, the chairman of the London County Council, will move on behalf of the Council that the period of three months within which a local authority must submit a housing scheme shall be extended to twelve months. Lord Downham, when he was Mr. Hay Fisher and President of the Local Government Board, did so in fine service as a protagonist of the housing movement that he was astonished at his rapid development into a reactionary since he became chairman of the L.C.C.—a clear case of cause and effect. He appears to have caught the infection, and we trust that his amendment in the Lords will be heavily defeated. Success would be a national disaster, not only through its immediate effect, but because it encourages the fatal dilatoriness that is our country's chief curse.

Government Interference with Builders.

Unless the accredited representatives of the building industry assert its rights and proclaim its wrongs as incessantly and as strongly as the circumstances warrant and demand, there must arise most lamentable troubles with regard to labour. During the war, the Government interfered, perhaps justifiably, but on the whole, by no means wisely, between employers and employed, and it now seems disposed to carry on in much the same way. A new Dora provides for the "dilution of labour" in time of peace on pretty much the same lines as those which caused so much annoyance during the war. Further, considerable difficulties with labour are arising from the Government's refusal to ratify certain decisions of the Conciliation Board with respect to wages and other working conditions. The Government should be at once told, in unmistakable terms, that this great industry has arrived at the end of its plentiful stock of patience, and is at length determined to resist to the utmost any further interference with its rights and liberties.

The Subdivision of Great Estates.

Decimation of great estates goes on with but little intermission. Notable among several recent instances is that of the Thixendale portion of the Sledmere estate in Yorkshire. Sledmere seemed inalienably associated with the Sykes family, of whom the most prominent was, of course, the fourth baronet, Sir Tatton Sykes, who did much to improve it. Moreover, he caused schools to be built in many of the villages, and he "restored old churches and built new ones. One of them is in Thixendale, and whether it can be sold with the rest of the village without committing sacrilege, or simply or some other deadly sin, may be a question for casuists, but more probably depends on whether the tenure is secular or diocesan. One shudders at the mere possibility of coming under the hammer of the auctioneer and being knocked down to the highest bidder, though churches in the war have been worse profaned. At the worst, the church, it may be supposed, will not be perverted from its present use, and will remain to proclaim to future ages the generosity of its pious founder, hearty old Sir Tatton, who was almost the last of the old English squires—of the robustious red-cheeked men who contrived to combine, not altogether inharmoniously, passion for the racecourse with a due regard for religion, especially if the parson rode straight to hounds. One can hardly suppress a sigh on seeing the good times of coaching and hunting melt away like a dissolving view, with "Yoicks!" and "Tally-ho!" dwindling echoes. Sir Roger de Coverley, Sir Tatton Sykes with him, mere memories of a vanished—and when one comes to think of it—decidedly curious phase of civilisation.

New Men and Old Acres.

Hard Jefferies was rather fortunate in his opportunities. Had he been born half a century later, he would have lacked materials for his peripatetic (too frequently pedestrian) sophistry "Round About a Great Estate." If the present tendency towards subdivision continues—and it seems to be only increasing—there will soon be no great estates: they will have been parcelled out into ten-acre lots. These acres, over which it is fatally easy to wax sentimental, are of no interest to the architect and the builder, to say nothing of the surveyor, who will get very busy staking out the

No more will miles upon miles of cultivable land be idle for the pleasure of the American deerstalker. But there will be less need for the widely scattered shooting-grounds, there will be an enormous demand for the buildings vital to the small farmer. Monumental domestic work will diminish with the acreage of the estate, but the demand for the small country house will be unprecedented, and the opportunities for construction and equipment will be correspondingly multiplied a hundredfold. It is, then, only for sentimental reasons that one regrets the subdivision of estates, which should imply greater prosperity for all concerned, because it means a busier Britain, more wealth got from the land, and an increase of building and all that pertains

Next Week's Meeting of the National Federation.

London is to be the scene of this year's summer meeting of the National Federation, and the deliberations will take place, appropriately enough, in Carpenters' Hall, Throgmorton Avenue, where next Wednesday, July 16, the Lord Mayor of London will welcome the delegates, at half-past ten in the forenoon. The Council will then have held on the preceding Tuesday, July 15—their meeting, and the members will have dined together at the Trocadero Restaurant. On Wednesday evening, at the Caxton Hall, there is to be a reception by the President of the London Master Builders' and Craft Industries Association; on Thursday morning a trip to the Thames and a visit to Hampton Court Palace. Most of the agenda is taken up with routine business and domestic details; but there are three items that are of general importance. These are—(a) The demand of the National Federation of Building Trade Operatives for a National forty-four-hour week; (b) whether future negotiations relating to wages and conditions should be dealt with nationally instead of locally as heretofore; (c) the advisability of making it a condition of the Federation's agreeing to a shortening of hours and any other increase in the maximum rates of wages paid in the building trade that the operatives should agree to the insertion of working-rule agreements of satisfactory provisions for the

maintenance of an equivalent output." It would be unfair to discuss these items in advance of the debate; but it may be nevertheless permissible to hazard the observation that (c) suggests the hackneyed but irrepressible proverb that though you may succeed in leading the horse to the water, you cannot compel him to drink. But the endeavour is both just and courageous, and we wish it the greatest possible measure of success.

Hampton Court Palace.

Given fair weather, the trip to Hampton Court should be for ever after unforgettable. The palace, with its grim memories of Henry VIII. and Wolsey, and its pleasant traces of the skill of Wren, marks plainly the transition from the feudal stronghold to the more civilised palace built for pleasure rather than for protection. It was the favourite residence of Elizabeth, where she was wont to hold her Christmas revels, and in whose pleasures she delighted "to go a walking." Legend has it that here, through Elizabeth, arose the name and the vogue of the Michaelmas goose; for when the great tidings of the defeat of the Spanish Armada reached her she was dining off a goose; whence arose the commemorative custom of eating a goose on Michaelmas day. It is rather odd that, though Charles the First had lodged in the palace, it was afterwards a favourite residence with Cromwell, who, indeed, in 1656 bought it back from a member of Parliament named John Phelpe, who, five years before, had purchased it from the Government for £10,765 19s. 6d. Of Cromwell it is recorded that "sometimes, as the fit takes him, to divert the melancholy he dines with the officers of his army at Hampton Court, and shows a hundred antic tricks, as throwing cushions at them, and putting hot coals into their pockets and boots!" Sir Christopher Wren pulled down various portions of the old palace, of which William Howitt wrote this brief but vivid description: "The old dark-red brick walls, with still darker lines of bricks in diamond shapes running along them—the mixture of Gothic archways and square mullioned windows—the battlemented roofs, turrets, and cupolas, and tall twisted and cross-banded chimneys, are all deeply interesting, as belonging to the unquestionable period of Wolsey—belonging altogether to that Tudor or transition style when castles were fast turning into peaceful mansions, and the beauties of ecclesiastical architecture were called in to aid in giving ornament where before strength only had been required." It is in Fountain Court (the Eastern Quadrangle) that Wren's work is seen. It was built in 1690; and there are those who, following that fastidious but tasteless fribble Horace Walpole, consider it a failure—an opinion in which there is about two per cent. of crude truth. This visit being an occasion of, we hope, unalloyed pleasure, it were tactless, but for the lapse of intervening centuries, to recall the pathetically beautiful manner of Wren's death. They found the dear old man asleep in his customary chair, and they could not wake him.

Restriction of Output.

Mr. Ernest J. Brown, Past-President of the National Federation of Building Trades Employers of Great Britain and Ireland, had in the "Daily Telegraph" of July 3 an article urging the desirability of a propagandist campaign among the workers with the object of opening their eyes to the necessity for increased output. Mr. Brown asks, "Can the worker be induced to give in return" [for sundry benefits he is receiving] "something worthy of him? Can he be induced to give of his best towards the reconstruction of his country exactly as he or his sons gave towards the defeat of the common enemy? Instead of the good workman levelling his output down to that of the inferior or lazy workman, cannot he be induced to level up the latter to his own standard?" To the third of these questions, we should say, reluctantly but positively, that the answer is in the negative, because it is so obviously impossible for the superior workman to raise the inferior to his own standard, although the reverse process is fatally easy. Apparently there is a middle course—the good and the bad meeting each other halfway or thereabouts. No doubt the writer intended us to draw this inference, but preferred to state his case rhetorically. Nobody will dispute the proposition that wilful restriction of output is wrong from every point of view—is an altogether disastrous policy, which, if it did not actually originate in the building industry, is particularly rife in it—but the task of convincing the worker that it is unwise and unpatriotic is by no means easy. We are, however, among those who are hoping much from workshop councils, Whitley Committees, and the like; and we are awaiting with much interest the recommendations of the mixed consultative committee for the building trade of which Mr. Ernest Brown is a member. If this committee decides that the most effectual way to get the worker to do his best is to make it worth his while, and suggests some really practical means to that end, the most formidable of industrial problems will at length be solved.



SIR DAVID BROOKS, LORD MAYOR OF BIRMINGHAM.

Birmingham: 1750—1840

By ARTHUR T. BOLTON, F.S.A., F.R.I.B.A., Curator, Sir John Soane's Museum

BIRMINGHAM as a city must be regarded as having been too much absorbed in the present to have cultivated a fine regard for the monuments of its own immediate past. Anyone who can look back even thirty years must have many regrets for obliterated features of the eighteenth and early nineteenth centuries. A memory reaching back over fifty years would probably include much greater changes still, as the drastic reconstruction of the city in the centre must have come about within the past half-century. The visitor, on first arriving at the principal railway station and reaching the main street, used to see in the view looking up towards the Town Hall the pleasant break of the projecting portico of the Society of Artists on the right-hand side. This feature, a Greek Corinthian order of four columns, with a flat-pitched pediment, was the careful work of Thomas Rickman (1776-1841) in 1828. He also designed St. Peter's and St. Thomas's churches in Greek Doric and Ionic respectively at about the same date. St. George's, in the "decorated" manner, was an earlier work (1819-22).

On the left, and near at hand, used to stand the graceful Wyatt façade of the theatre (1789-90). The first floor was then occupied by a well-known firm of billiard-table makers. There is, unfortunately, no adequate drawing or photograph of this interesting work. The proportion and spacing which were the secret of its success might at least have been accurately recorded. One interested amateur, when visiting Birmingham, told his architect-conductor that this was one of the buildings in the city that he most of all cared to see.

Not very far away, behind us from this point of view, is King Edward's Grammar School, the really remarkable early work of Sir Charles Barry, R.A. Designed in 1833, and built before the competition for the Houses of Parliament (1835-6), it gives the best idea of the character of the winning design, as it may be seen in the rough wood-cut of the "chosen design" in "The Mirror" of July, 1836. Barry had learnt much since the days of his early churches in Manchester 1822, Brighton 1824, and London 1826, and this Grammar School of his at Birmingham

holds its place well in the history of the Gothic revival. He first met Pugin and the sculptor of the Houses of Parliament the mason-carver, Thomas.

It is unfortunate that the city missed the chance of possessing a work of Barry's to rival that of the Royal Institution (1824) at Manchester. The Greek Competition design for the Town Hall (1830) came at a point in his career when he was shaking off earlier prepossessions, and commencing to crystallise his Italian recollections and studies in new and original work. Barry was tired of the eternal portico of the period, the refuge of Nash and Smirke and their associates, and this was to be practically his last effort to incorporate that feature as an essential element in a building. At least one critic realised the fine character of the rejected design, and has left a verbal description, which seemed to be all that remained until the original design was unearthed:—

"Mr. Barry's design is not of a description to strike at first view, except as being an admirably executed drawing, it seeming to consist of little more than a hexastyle portico of a very plain character; when we come, however, to examine it, we discover it to be replete with beauties, and to afford evidence of study, of original thought, and more than ordinary feeling. The order is a Doric, or, rather, what is usually denominated Tuscan, the columns having bases and unfluted shafts, and the frieze being without triglyphs; still, "Tuscan" would very ill-designate the general character, which is treated more in the spirit of the genuine Grecian Doric than any other style. The columns are raised on a basement or stylobate, pierced only by three doors of narrow proportions, and with exceedingly deep plain lintels and architraves. These doors correspond with the centre and two extreme inter-columns of the portico above; so that the distance of solid unbroken wall between them is very considerable, and conveys the idea of great strength. Still, the arrangement would have been attended with a disagreeable appearance of weakness, as the lateral doors would have been too near the angles, had not the architect most felicitously overcome this inconvenience by extending the basement at each end



Photo: Thomas Lewis, L'd., Birmingham.

TOWN HALL, BIRMINGHAM. HANSOM AND WELCH, ARCHITECTS.



UNION OF LONDON AND SMITHS BANK, NUNEATON.
BATEMAN AND BATEMAN, ARCHITECTS.

W. H.
CANTONMENT OF ALBANY



BIRMINGHAM SOCIETY OF ARTISTS.

THOMAS RICKMAN, ARCHITECT.



GOODS OFFICE, L. AND N.W.R., BIRMINGHAM.

THOMAS HARDWICK, ARCHITECT.

beyond the portico itself, by the addition of a very bold pedestal carried up as high as the bases of the columns, and surmounted by massive bronze stands for lamps, partaking somewhat of the form of antique altars. Another circumstance that contributes materially to enhance the rich picturesque effect of the whole, yet which is apt to escape notice in a drawing, is, that he has introduced columns within the portico behind those in front, thereby producing not only a degree of chiaroscuro, but great perspective variety and force. The building is insulated, and the columns are continued along the sides; yet from want of a plan, and owing to the point from which the edifice is viewed, we cannot say whether there is a regular inter-column between the columns and the wall. We should apprehend that their bases are close to the wall, even if no part of their shafts are engaged in it; otherwise, as the building is only hexastyle in front, the interior space would be too confined, except formed into a single large apartment. Rarely have we seen a design possessing so much originality, with apparently no pretension to novelty; or so true to the spirit of classical architecture, without at all reminding us of any individual model."

The Town Hall, built by Hansom and a partner, as architects and contractors, with the inducement that Anglesey marble would be supplied at the price of Portland stone, turned out a

bad speculation for the enterprising firm. An isolated temple on a basement, cut to ribbons by tall arches, is not a promising motif at any time, but by position it is not entirely devoid of effect. It does not exactly compare with the Madeline. There was a fine rejected scheme by W. H. Lynn, of Belfast, in 1871, which would have combined with the Hall the proposed Municipal Offices, as part of a great group of associated buildings, and thus have relieved its present isolation. The well-intentioned Midland Institute, 1856, and Public Library, 1861, by Edward Barry, R.A. (1830-1880), has been altered and added to in a phase now happily passed. The fine solid church of Christ Church, which had a surrounding churchyard that was a pleasant oasis, has fallen a prey to commercialism. The "New Church" (1711-19) of Archer (d. 1743) has a tower of character which is well known. The body of the church, in a heavy Doric, is less successful. Inside Burne-Jones has revelled in crimson conflagrations of stained glass that kill all the architecture that might at one time have been visible.

Of the older "Quaker Birmingham" some relics still exist—quiet houses of brick with marked quoin blocks and flat rusticated block lintels. Old Square, where Johnson's school-fellow Hector lived, was a delightful corner. Years ago a collection of measured records might have been undertaken of these characteristic features of the old city, before the terra-



MARKET PLACE, BIRMINGHAM.

Photos: Thomas Lewis, Ltd., Birmingham.

cotta invasion took place. What wild experiments the Victorian age has indulged in is only too well known and evident to the visitor who traverses the abortive Corporation Street. Newcastle, fortunate in the guidance of John Dobson, can show what might have been done by well-directed effort. The Canal Office, of local red brick, is a composition to be noticed. The octagonal centre feature attracts attention. This old building has also been threatened with destruction. The Nelson Monument, in the market-place, without being of a high order of sculpture, is not devoid of effect in its position.

The architect visitor will probably pay his respects to Pugin, who, born in 1812, died at the age of forty in 1852, but into this short life crowded the work of several ordinary men. His Church, with its twin towerlets rather than towers, recalls the days when he astounded a building committee with the advice to "make it thirty shillings more and have a Tower and spire." A little acquaintance with the conditions of church building after the great war will help the architect to estimate Pugin's fervid services in bringing about a better state of things, even if he himself was only satisfied with his own church of St. Augustine's, Ramsgate.

The Birmingham Museum contains something, perhaps, of everything except the local architectural records that the visitor would most like to see. In the Boulton and Watt rooms at the Library, however, in some portfolios of engineering details, the writer discovered a set of Wyatt's plans for the Albion Mills, Blackfriars (built 1784-8, burnt 1791), a most interesting warehouse design. A façade for Soho, probably not executed, was also included. Soho, the famous show-place of the city in the last half of the eighteenth century, is now only a memory, but Boulton's House, reconstructed by Wyatt about 1789-90, still exists, with its pleasant half-circle porch and lunetted central feature. Inside, the fine dining-room has a vaulted ceiling on columns, behind which are original side tables by Sheraton (1751-1806). It is to be hoped that this, a memory of a great citizen, will not share the common fate. Boulton made a quantity of fine plate of the late Georgian period, and borrowed antiques from many distinguished persons who were also Robert Adam's clients—i.e., the Duke of Northumberland, Lord Shelburne, and Sir Williams Watkin Wynn. Wedgewood, who was a friend and associate, writes in September, 1769, to his own partner, Bentley, apropos of Boulton: "It doubles my courage to have the first manufacturer in England to encounter with. The match likes me well. I like the man, I like his spirit. He will not be a snivelling copyist like the antagonists. I have hitherto had, but will venture to step out of the lines upon



BIRMINGHAM NATIONAL PROVINCIAL BANK OF ENGLAND.

JOHN GIBSON, B.A., ARCHITECT.

occasion and afford us some diversion in the combat. A room is taken in Pall Mall, and they are to exhibit there this winter." Wedgewood and Boulton could work together, and, with the concurrence of James Stuart, the Adams, Chambers and Wyatt, there was a remarkable association of architecture and manufacture, which well deserved to be maintained.

Sir Wm. Chambers exhibited at the Academy a set of designs of vases for Boulton's manufacture. It is uncertain who was the designer of the sedan chair which Boulton made for Queen Charlotte. Robert Adam designed some of these elegancies, which were matters of emulation in display at this period, a competition more exciting than that of our motor cars.

These annual rings in the growth of a great city deserve adequate record, and cannot fail to be full of instruction, warning, and perhaps encouragement.



BLUECOAT SCHOOL, BIRMINGHAM.

Photos: Thomas Lewis, Ltd., Birmingham

The London and Birmingham Railway

IN these days of aerial navigation a short account of an early railway and the difficulties attending its working may seem a little old-fashioned. Yet reflection proves that a common interest attaches to both, for the year that witnessed the accession of Queen Victoria and the flocking of London to view the Doric splendour of Euston, found the scientists of England earnestly discussing the merits of Henson's Aerial Transit Machine, an affair of planes and propellers not differing in principle, save for the engine, from the machine that recently spanned the Atlantic. Eighteen years still remain to be covered before London or Birmingham can indulge in centennial pageants commemorating the forging of the steel road that binds the cities so closely to-day; but, as this article is mainly concerned with the architecture of the line, its appearance at this juncture is not inopportune for buildings standing now under risk of early demolition, and nothing should be left to chance. The writer, prior to a recent visit to the Midland capital, held conversation with an aged relative, who remembered the excavations for the line at Regent's Park in 1836, and who a few years later was taken by his parents on the hazardous trip of a hundred and twelve miles by rail.

There is nothing to equal a first-hand account, and for this reason an attempt is made in these columns to set down the impressive story told by a nonagenarian who still retains vivid impressions of the period, together with many sly quips and anecdotes: an account rendered more interesting by the fact that the gentleman now carries the settlement of old age, and the grim gateway of Euston ranks among the old buildings of London.

The Journey in 1838.

You ask me to tell you my experiences of the railroad to Birmingham. Well, I was a boy of eight years of age when operations were started near my father's house in Mornington Crescent in 1836. Many people were doubtful as to the sanity of the enterprise, and it was usual for all classes of people to make periodical excursions to view the works, which were considered to be among the wonders of the world.

The line was opened in the year 1837, but from what my father told me I gathered that it was only possible to travel in the railway coach as far as Denbigh Hall, a small inn on the Polyhead Road, and from thence to Rugby by stage coach, continuing the journey from that place by rail to Birmingham. A few years later the line was completed and all sorts of improvements coincided with the luxury of through carriages.

When I made my first journey in July, 1840, we breakfasted at six o'clock, a hackney coach ordered the previous day took us to Euston, and with half an hour to spare we examined the station. My father, who had some knowledge of architecture, told us that this new railroad was a Roman work, conceived in a Roman spirit, and accomplished with Roman perseverance and determination. He pointed out the Greek-ionic entrance seventy feet high which Mr. Hardwick had erected as a monument to the genius of Stephenson, as well as to inspire passengers with awe. In fact, my father said at the time, "This building and approaches, my son, suggest the idea to the imagination that we are within classic precincts,

near to some temple wherein the ancient rites are celebrated—in which the Roman Deification still presides; the covered ways and bridges strengthen the idea; and the rolling sound of carriages, resembling distant thunder, richly harmonises with the impression."

We entered through the doorway reserved for first-class passengers and booked for Birmingham. A train of six coaches was drawn up alongside the down parade, our luggage was taken by the policeman on duty and strapped on the top of our coach, and after waiting till the bell rang, punctually at seven-thirty we moved off down the terminal plane solely by the weight of the coaches, the brakesmen having released the brakes. A hundred yards or so further on the coaches jolted over junctions in the rails and came to a stop. The "messenger" or coupling rope attached to a hook on the leading coach was connected with the endless hauling rope worked by the stationary engine of 60-horse-power operating the revolving drums at Chalk Farm. Soon we were in motion passing between a deep cutting and over all sorts of bridges, eventually coming to a stop between the guardian chimneys of the Camden Town Depot. It was originally intended that Camden Town should be the terminus. From the gigantic circular engine-house a tall-funnelled locomotive came snorting and puffing, first running alongside the coaches as if to take stock of the passengers and to ascertain the load, and then backing on to the front of the train with a jolt. There was a different feeling when the iron-horse began to pull. I remember the awful sensation that possessed us when we approached the entrance to Primrose Hill tunnel. I noticed a group of people at the side of the cutting, where the buses in Adelaide Road now stand, looking at the train and the fiery engine as though the latter were about to be swallowed up for ever. The roar and the noise were deafening; the coach we were in contained three other passengers besides my father, my mother, and myself—a military officer going down to the barracks at Weedon, a clergyman going to Tring, and a lady visiting her son at Rugby. The train stopped at Harrow, eleven and a half miles from the start, having taken fifty-three minutes; other stops were made at Watford, Boxmoor, and Berkhamsted. We crossed and recrossed the Grand Junction Canal many times between these places and Tring, noticing the paper mills at the sides of the canal, the neat lodges and locks, and the beautiful character of the country. The speed at times approached twenty-five miles an hour, and we were only two minutes behind time at Leighton Buzzard, where a stop of ten minutes was made to enable the engine to refill its boiler. On and on we went through the undulating country. Buckinghamshire changed into Northamptonshire, Wolverton gave place to Weedon, and a little over four hours from town we reached Rugby, eighty-three miles from Euston Square, where we stopped for refreshments.

Leaving Rugby we crossed the Upper Avon with a massive viaduct, and stopped at Brandon, a small country station. At Coventry we obtained a momentary peep of the farms and pines, and caught a glimpse of the country people assembled on the bridge over the railroad gazing on the novelty of a steam-engine. The undulating lands of Warwickshire opened up before



LONDON AND BIRMINGHAM RAILWAY: ENTRANCE FRONT OF THE LONDON STATION (EUSTON).

PHILIP HARDWICK, F.R.S., ARCHITECT.

(From a Lithograph by T. Allom.)

us as we rolled and jolted along. It was bad enough in the padded first-class coach. What it was like in the second-class I cannot imagine. Finally, six hours from London, we approached Birmingham through one of its worst-looking suburbs, a region of brick, smoke, and steam.

The Journey in 1919.

In these days of quick railway transit and non-stop trains many people slip up to Birmingham before lunch and arrive back before dinner without giving a thought to the railway company, the architecture of the line, or the personality of the driver and stoker. On this account it is impossible to forgo the idea that the great majority of passengers by rail lose half the pleasure of travelling by inattention to details; they journey but see not, no thrill of excitement attends their passing from one place to another. They are oblivious to conspicuous landmarks, and to their understanding a railway is strictly utilitarian.

Approached from the leafy greens of northern Bloomsbury, Euston Station still retains some of its early mystery and many of its awe-inspiring features. The lodges marking the entrance are very good specimens of design, the hotel with its dual cabway, an excellent example of academic dignity; small wonder, for the ingenious race of Hardwicks recovered the tradition of Chambers. The Greek-Doric portico retains nearly all the original attributes, such as the console lamp brackets, massive iron gates, bollards and guard rails, although the subsidiary lodges have been sadly mutilated, and the pediment has been turned into a muniment room. Sweeping changes were made in 1847, when Philip Hardwick and Son cleared the enclosing walls at the back of the portico to erect the Italian cortile and the Great Hall, borrowing the motif for the latter from the audience chamber in the Mazzini Palace, and studying "Clayton's City Churches" for the character of the adjoining Booking Hall. Two years later Sir Francis Head found plenty of material for his delightful treatise, "Stokers and Pokers." To-day Euston is an interesting maze, an interminable labyrinth of platforms, sidings, corridors, and waiting-rooms, rendered more complicated by the underground tunnelings of the Tubes. The traveller with half an hour to spare can find a wealth of architectural interest to amuse him if he be of an enquiring turn of mind. He can trace the position of the original set of rails, he can discover the magnificent north elevation of the Hall, admire the quality of Hardwick's masterly detail, and note the character of Thomas's sculpture. Further discoveries await him when the train ascends the incline northerly. No longer need he fear the breaking of the twelve-ton rope, no longer is it necessary to attach the "messenger." As the train leisurely ascends the incline he notices the parapets of the old bridges at Camden Town with the delicate iron railings, he looks beyond the lengthy sheds at Chalk Farm to see the original round-house, now a bonded store. Chalk Farm Station is a thing of the past. The aristocratic villas of Adelaide Road mark the nearness of the Piranesian approaches to the depths of the tunnel at Primrose Hill, and by the time the express is quickening its pace he is through the depths without opportunity to do more than glance at the pilasters and triglyphs of the Kilburn end.

And so on to Willesden, between the walls Jerryville, with electric trains of low stature pulling up from the depths alongside, on and on through acres of sidings, with stunted trees left derelict and amazed. The heights of Hampstead fade away to the south. On the left the spire of Harrow rebukes modern Suburbia. Gone are the glories of Oxhey cutting, smirched with red are the trees of Bushey. The viaduct at Watford is

won and lost, and with the memory of the original engine-house with the silhouette of the "Rocket" doing duty as a weather vane, the traveller settles down in his corner seat to resign himself to the gloom of Watford tunnel. If he had leisure to explore the line he would find many traces hereabouts of the original undertaking. There are a few name-plates on posts bearing the mystic letters L. and B.R. Boxmoor Station is much as it was when Hardwick's men left it complete to the last coat of paint; the brick and masonry bridges across the road still retain their characteristics, although the rails have been doubled and trebled. On and on between the rising hills of Hertfordshire, now alongside the Grand Junction Canal, noting the locks and the chimney stacks of the mills, now riding high above the tiled roofs and the trailing smoke of Berkhamsted, until the summit at Tring is reached and the increased speed is recorded by the rhythmic swaying of the coach. It is a fine sensation this, rushing northward on a joyous musical ride with the score of the country-side marked rhythmically on the swaying telegraph wires. For a time we are in Bucks, with the Dunstable fields to the east, then we are through the Leighton tunnel, just scanning the Gothic entrance, remembering that Rickman and Pugin at one time wielded power enough to sway momentarily the allegiance of a railway company from classic to mediæval.

There is no trace of the old station at Bletchley; a curious iron trellis and vousoired bridge, strengthened in these days without doubt, carries the iron road across Watling Street at Denbigh Hall, once the scene of bustle when passengers changed from train to coach. The countryside changes; roofs are thatched and gables are steep, grazing land, and the spire of Hanslope Church proclaim the fact that Northamptonshire is beneath the wheels.

Now, so far, as the reader has surmised, this article has been written at express speed. It has something of the swing of the train about it—the commas, semi-colons, and full-stops have checked its headlong flight, like signal posts. If to the reader it scans monotonously it is a fault in sympathy with the subject. The real express to Birmingham stops at Rugby: as there is nothing of architectural interest in the modern station this account runs straight through, remarking on the spires of old Coventry and the cathedral outline of one of its largest factories. At Brandon is encountered the original station with its projecting pent roof, although at sixty miles an hour little time is left to us to study detail.

What a change has come over the country during the last few miles—there is a veil of smoke obscuring the sun, the fields are black, oblong blocks of buildings stretch hither and thither. Long since we lost touch with the identity of the Grand Junction Canal, so mysteriously have the waterways multiplied between the mounds and serrations of red brick. What a vast number of railway sidings there are to the right; just look at the trucks and floats, and that fine piece of architecture rising like a fortress in the midst of the railway trucks; can that be Hardwick's Ionic gateway in Nova Scotia Gardens? If it is, that is the terminal of the old Birmingham line. With majestic insolence the express rolls into New Street, this account is exhausted, and the city with the name that can be spelt in a hundred and forty different ways is open for exploration.

[So also is its Housing Exhibition, of which our contributor seems oblivious, although we are to suppose that the announcement of it prompted him to make the journey which he has made so intensely interesting for those who will certainly undertake it the more readily for his alluring description.]

Eds. A.J.]



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Four Birmingham Architects



MR. JOSEPH CROUCH, F.R.I.B.A.



MR. RUPERT SAVAGE, F.R.I.B.A.



MR. ALFRED DUNN, F.R.I.B.A.



MR. C. E. BATEMAN, F.R.I.B.A.

Some Notable Birmingham Buildings, Old and Recent

By BENJAMIN WALKER, A.R.I.B.A.

IN the brief record which William Camden has left of his visit to Breminchem about the year 1580 it is noted that the lower part of the town was very wet, and that the upper part was adorned with handsome buildings. By "the lower part of the town" we are to understand the neighbourhood of the river Rea and Deritend Bridge, and by "the upper part" the rather steep hill leading thence to High Street, half-way up which is the open space of the Bull Ring. Here converge the roads from the surrounding towns and villages, and here, as a natural consequence, is, and has been from time immemorial, Birmingham's Market Place overlooked by the parish church of St. Martin. No doubt this church, the only one possessed by Birmingham in Camden's time, was one of the handsome buildings seen by him, but whether his description was just or not we have now no means of knowing, for the church as we now see it is, with the exception of the tower and spire, the work of the late J. A. Chatwin, and dates from about 1873. Seen as it usually is from a point higher than itself, it suffers somewhat from its situation, but, nevertheless, it forms a pleasing group and a good background to the open Market Place.

It was not until the opening years of the eighteenth century that Birmingham became possessed of a second church. This was built on what were then the extreme outskirts of the town, on a site given by Mr. and Mrs. Robert Phillips, and dedicated, appropriately enough, to St. Philip. The architect was Thomas Archer, a pupil of Sir John Vanbrugh, and a son of the member for Warwick, and it is one of his most successful productions, the tower at the west end being especially noteworthy. In plan this is a square with canted angles and concave sides, and the originality and skill of the design, coupled with its commanding position, make it, as has been truly said, one of the finest steeples of its kind in England. The church is built of brick faced with stone, and in the agreement with the builders, which is still extant, it is stipulated that the bricks were to be delivered on to the site at a cost of eight shillings per thousand. The stone came from a local quarry, probably Rowington, and is, unfortunately, of so friable a nature that the decorative details

of the tower have been largely lost, while the whole of the exterior of the rest of the church has been renewed during recent years. The interior contains four notable stained glass windows by William Morris and Co., from designs by Burne-Jones, who was born not many yards away in a house still standing in Bennett's Hill.

In the early years of the nineteenth century several notable buildings were erected in the town; the first in point of time being the Town Hall. For this some sort of competition seems to have been held, one of the unsuccessful competitors being Charles Barry, and the design submitted by Hansom and Welch was selected and carried out. This was in the form of an octostyle peripteral temple with fifteen columns on the flanks, approached by a continuous flight of three steps. In order to obtain the necessary internal height, however, the whole is set upon a rusticated basement, with the result that these steps, which ought to be on the level of the ground, are now some twenty or more feet above it. The order employed is more or less that of the fragment of the temple of Jupiter Stator in Rome, and the building possesses a quiet and massive dignity well suited to its purpose; but how much of this dignity is due to the unknown Roman architect, and how much to his modern imitators, may be a nice point to decide. The stone employed is Anglesey marble from the Penmeon quarries, and it will be noted that it is weathering very irregularly; the caps on the Ratcliff Place elevation showing much more decay than those facing Victoria Square. The architects of this building were also the contractors for its erection, and they made a considerable loss on the work, although Sir Richard Bulkley, the owner of the Penmeon quarries, presented them with the stone free of charge.

The Town Hall was finished in 1835, and three years later the London and Birmingham Railway was opened, the terminus being in New Canal Street, where an imposing block of offices was erected at a cost of £26,000 by Grissell and Peto from the designs of Philip Hardwick. The front of this building may be described as a tetrastyle portico of the Ionic order, the entablature being supported by four immense columns 4 ft. 8 in. in



Photo: Thomas Lewis, Ltd., Birmingham.



ST. MARK'S CHURCH HOUSE, WASHWOOD HEATH. H. HOBBS, A.R.I.B.A., ARCHITECT.

meter at the base and rising to a height of nearly 40 ft. There are no other columns in the town comparable with these, being situated in a most insalubrious district which no one visits except under the pressure of the most exacting business, and they are very rarely seen.

Another building dating from the 'thirties of the last century is King Edward's School in New Street. In 1832 the Governors decided to demolish the old school, which had been in existence since 1707, and to build a new one on its site. More than sixty architects competed for the work, and Charles Barry, who, as you have just seen, had been unsuccessful in the Town Hall competition, was awarded the first premium of £100 and was instructed to carry out the design he had submitted. This was in the Perpendicular style of the latter half of the fifteenth century, which was considered eminently suitable for a school whose foundation dates from Tudor times, and the building, although erected so soon after the Gothic Revival, is notable for the purity of its detail, and is quite worthy of its author. Exception may,

perhaps, be taken to the row of attenuated pinnacles on the New Street front, but the principal entrance, with its fan vault and central pendant, is quite good; and the "Big School" at the rear overlooking New Street Station is a large light room with an effective open timber roof. The stone employed was obtained from the Darley Dale quarries, and has withstood the corrosive action of the Birmingham atmosphere with remarkable success.

Beside Sir Charles Barry, two other men who played an important part in the Gothic Revival have left examples of their work in Birmingham: the elder Pugin and Thomas Rickman. The former of these, who may possibly have had a hand in King Edward's School, was the architect of the Roman Catholic church of St. Chad in Bath Street, and the latter was the architect of St. Peter's, Dale End, (now unfortunately destroyed), and St. Thomas's, Holloway Head, both in the classic style, and St. George's, Tower Street, a large Perpendicular structure with quite good detail considering the period in which it was built.



SALTLEY COLLEGE: AN ENTRANCE.



SALTLEY COLLEGE: NEW WING.

H. HOBBS, A.R.I.B.A., ARCHITECT.

On Sir Charles Barry's death his practice was continued by his third son, Edward Middleton Barry, who was the architect of the earlier parts of the Free Library and the adjoining Midland Institute, completed in 1856. This is a quiet classic building, now, perhaps, somewhat overpowered by the much more florid additions of the late John Henry Chamberlain who, in conjunction with his partner, the late William Martin, carried out a very great deal of work in the district during the 'seventies and early 'eighties. The School of Art in Margaret Street is usually considered one of their most successful productions, although it may be that, at the present time, it is not quite easy unreservedly to admire the species of Gothic adopted, one might almost say created, by Chamberlain. In his purely decorative detail, however, there can be little question that he often achieves the very highest success.

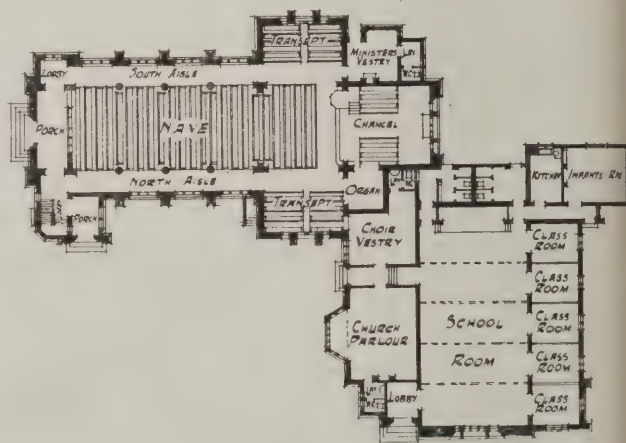
In 1876 a great impetus to building activity was furnished by the Improvement Scheme initiated by Joseph Chamberlain. This consisted in the creation of a new thoroughfare from New Street to the Aston Road, and the consequent demolition of a number of insanitary dwellings lying between Bull Street, Dale End, and Steelhouse Lane. This thoroughfare, Corporation Street, is laid out on a slight curve, and the view from the New Street end, with the slender flèche of Mr. Doubleday's Cobden Hotel in the middle distance, and the square tower of Mr. Ewen Harper's Central Hall in the farther distance, is quite pleasing. One often wonders, however, what were the insuperable difficulties (for surely they must have been insuperable) which prevented the axis of this new thoroughfare from coinciding with the axis of the earlier Stephenson Place.

Unfortunately, from the awkwardness of the site one of the most notable buildings in Corporation Street, the Law Courts, can hardly be seen until one comes right upon it. This building was begun in 1887, and is as every one knows, from the designs of Mr. (now Sir) Aston Webb and Mr. E. Ingress Bell. In it terra-cotta has been employed with the greatest freedom, both internally as well as externally, and the ease with which it can be worked up into intricate detail has been used to the utmost; and although it cannot be said that the Law Courts introduced terra-cotta into the town (for John Henry Chamberlain had already done that), yet it certainly popularised its use and undoubtedly exercised considerable influence on the town's architecture for some years.

The Council House in Victoria Square belongs to a rather earlier period than the Law Courts, the first stone having been laid in June, 1871. It was built from the designs of the late Yeoville Thomason, who also, a few years later, carried out the adjoining offices for the City Gas Department (now used by the Water Department) and the Art Galleries over. The staircase to these Galleries is singularly mean. One can only suppose that the necessities of the presumably more important Ga-

Offices prevented the architect from providing a more dignified approach to the presumably less important artistic treasures of the city. The very large and important block of offices and galleries on the north side of the Council House, and connected thereto by a bridge spanning Edmund Street, has recently been carried out by Messrs. H. V. Ashley and Winton Newman, whose designs were selected in open competition in 1907.

Other recent buildings in this district are Professor Lethaby and Mr. J. L. Ball's Eagle Insurance Buildings in Colmore Row, with Mr. Waterhouse's Atlas Buildings on one side and Messrs. Goddard, Paget, and Catlow's Alliance Offices on the other. In Margaret Street, near the School of Art (already mentioned), Messrs. Cossins and Peacock's Old Library; and in Edmund Street is the late J. A. Cossins's Mason College. This was the beginning and nucleus of the Birmingham University, the principal buildings of which are now partly erected at Bournbrook from Sir Aston Webb's designs. In Great Charles Street is the Dental Hospital of Mr. Bateman, who has also built several blocks of chambers in the neighbourhood and a very successful Bank in Broad Street. In New Street is Messrs. Runtz and Ford's Theatre Royal, with its band of figures representing Comedy, Industries, Charity, Justice, Science, and Tragedy, and next to it Messrs. Nicol and Nicol's Picture House. Mr. Leonard Stokes's Telephone Exchange is in Hill Street, and Mr. Arthur Harrison's Carr Lane Institute in Deritend, while to find a typical example of Mr. Bidlake's work one must go further afield to his St. Agatha's Church at Sparkbrook, or his Bishop Latimer's Church at Winson Green.



WESLEYAN CHURCH, FOUR OAKS, BIRMINGHAM: PLAN.



WESLEYAN CHURCH, FOUR OAKS, BIRMINGHAM. CROUCH, BUTLER, AND SAVAGE, ARCHITECTS.



Photo: Thomas Lewis Ltd., Edmingtonham.

MESSRS. PEACOCK, BEWLAY, AND COOKE, ARCHITECTS.

BROAD STREET CHAMBERS, BIRMINGHAM.

11
Lundon's History

Architectural Causerie

THE City of Birmingham has been the object of my curiosity for many a long year, but only recently has opportunity been granted to me to investigate its inner mysteries. There was a time when I attempted to reach St. Philip's Church by way of Watling Street, that interminable highway through the unkind Midlands. My bicycle carried me through Towcester and Coventry, but my courage failed when I faced the tall smoky chimneys. On another occasion a luxurious Great Western transported me from Wrexham to Reading through Snow Hill during a blizzard when the lack Country wore a light mantle.

Mine has been the subtle enjoyment of a distant view. I have thrilled with speculation as to the real meaning of the gigantic machine pulsating in Warwickshire. The very name of the city has a fascination for me. Old William Hamper, a diligent antiquary, spent many hours compiling a hundred and thirty ways of spelling Birmingham. From his list I have chosen rumwyham and Brummidgham, both euphonious titles, meaning Brum and nothing else. Old Birmingham was familiar to me through the brass-rimmed spectacles of Hutton and the reading-glass of Longford. I have read the reminiscences of Juke Judkins, the son of a considerable brazier, and now at least one engraving (see below) by his cousin, Francis Jukes. Nothing gives me greater pleasure than anecdotes of Boulton's enterprise, how Rickman enjoyed designing in the manner of Athenian Stuart, and curious tales of Hansom, who, content with building the Town Hall, devised the gondolas of London.

My portfolios hold Westley's plan of the town as it appeared at the time of the First of the Georges, as well as Bradford's map of twenty years later. As I glance at my bookcase, the cupid's-bow handles speak of old-time Midland industry; and the plated candlesticks on my writing-table, the brass locks to my doors, and the metal ornaments to my clocks bear the hallmark of the eighteenth-century craftsmen of Soho, near Birmingham. When Sir William Chambers and his contemporaries wrote their specifications for the guidance of their special builders, the artificers of the Midland town were ready to execute the smallest furnishings. Stage waggon, pack-horse, and barge brought the goods to the London ironmongers; who in turn supplied the contractors. Adam engaged the services of Abercrombie in Whitfield Street to make his candle-rackets and door-handles, but this worthy London craftsman at times finished "rough goods" from Soho, chasing and polishing brass castings to suit the meticulous taste of Robert and William.

September the thirteenth, 1773, must have been one of several busy days when the Birmingham Assay Office examined and handled dozens of buckles, spoons, spurs, ladles, knife-handles, candlesticks, branches, salts, gun-furniture, tea-tongs, instrument cases, bottle stands, snuffers, snuffer pans, labels for bottles, sword-hilts, buttons, punch ladles, wine strainers, shoe-lasps, whip-handles, epergnes, "terrines," tea-vases, coffee-pots and lamps, teapots, canisters, bread-baskets, sugar-dishes, castors, ice pails, cream-jugs, two-handle cups, waiters' salvers, table crosses, sauce-boats, sacramental plate, Argyle tankards, pint and half-pint cups, dishes, plates, tumblers, cheese toasters, canes, skewers, inkstands, cassiolets, toilet-plate, fish and pudding trowels, bells, monteiths, and mazareens. Truly Jackson, the Assay Master, must have been appalled at the lengthy Rabelaisian catalogue.

These identical articles can be seen any day of the week resting

in the seclusion of the glass houses at South Kensington. At times I have chanced upon a poor battered specimen standing forlorn amidst a crowd of shoddy reproductions in the shop windows of Clerkenwell, the skimming of real silver worn thin, but retaining a genteel insolence in the midst of "platings on copper."

Other writers in this issue of the Journal deal with the principal buildings of Birmingham. There are an account of the railway from London, a short description of the Crescent on Dr. Ash's estate, and several references to the Housing Exhibition which opens to-day at the Town Hall. To-day architects, manufacturers, and a large section of the public, are looking towards the Midland City; doubtless some old illusions about it will be completely dispelled, possibly some new ideas will be formed. Birmingham is a city with a dual personality. Some part of the colour in its outer-works is apparent in the hollow of New Street Station; sooty particles have settled on the stone rustications and brick uniformity of the centre. The buildings in Colmore Row, and those forming the civic interest, have tarnished like neglected Soho plate. New Street is a very old street, in spite of modern improvements. Comparisons are apt to be impertinent, but in this instance the famous shopping thoroughfare can be likened to Regent Street, for a good deal of Regency work remains. The Arcades and Corporation Street comprise the modern aspect of the great "Toy Shop." The visitor, stepping from the train at New Street, will notice the slender lines of the iron roof spanning the platforms, and if he be observant will nod in a friendly manner to the stone columns peeping at him from either side of the raised gangway over the tracks. He will reach Stephenson Place and wonder at the Italian expression of the Queen's Hotel, designed by Livock in the manner of Hardwick, and ponder still more when he views the modern addition. If the mood takes him he will proceed to study the buildings of the city. Bennett's Hill, the professional quarter, will claim him; he will look with kindly eyes upon the graceful silhouette of the tower to the cathedral, perchance without despising the lines of the National Provincial Bank, designed by John Gibson, or Hornblower's Waterloo Rooms. Hansom's Town Hall, dominating New Street, will compel his attention, and when he has completed the round of the Housing Exhibition he will do well to reflect on the noble proportions of the interior. The City Hall, by Yeoville Thomason, will cause him to think of the style of Garnier, for the segmental pediments and the crisp detail recall the scintillations of the Opera House.

And so one can wander through the streets marvelling at the voussioired windows of Temple Row, the Georgian character of Edgbaston, and the lower-middle-class houses (late eighteenth-century) in Bradford Street. There is the delightful haberdashery shop owned by Messrs. Weston and Jarvis, already fifteen years old when Mr. Pickwick made his momentous call upon Mr. Winkle, senior. Finally, one makes pilgrimage to Curzon Street to see Hardwick's Ionic station buildings, with the arcaded wall to the goods yard, and eventually trudging to Snow Hill through Steelhouse Lane and past the virtuous Ebenezer Chapel. Birmingham is an architectural city in so far as its individual buildings are concerned; as an example of town development it is a maze. I hear that the subject of improvement occupies the pencil of one of its foremost spirits; and once the housing problem is in a fair way of being solved, the authorities will, without question, undertake the study of the City proper.

AERO.



THE CRESCENT, BIRMINGHAM. RAWSTORNE, ARCHITECT.

(From an engraving by Francis Jukes.)

Town Development in Birmingham in the Late Eighteenth Century

FROM an accurate survey of Birmingham made in 1785-6 it appears that the town then consisted of 173 streets, containing 9,773 dwelling-houses, of which number 6,032 are to the front, 3,737 backwards, besides other buildings (exclusive of Deritend, or that part of the town called foreign). To which brief account may be added the description of a "modern built house" of the period:

To be let, and entered upon immediately, a large Handsome modern-built House situate in Edgbaston Street, containing on the first Floor two Parlours, a large Hall or Shop, a Kitchen and China Pantry; on the second Floor, four very good Chambers, one of which is designed for a Dining-Room; and on the Attic Floor, four very good Chambers, nearly equal to those on the Floor below, commanding from two of the rooms an extensive view of the Country. The Cellaring is particularly good and spacious, and behind the House in a separate Yard is a good Brew-house, as also a Warehouse three stories high, and a stable. Adjoining to the Yard is a large Garden, containing upwards of 450 square yards, well walled and open to the Fields.—Apply to Charles Lloyd, Edgbaston Street.

From 1787 onwards advertisements of land to be let for building became very numerous, and show how the surrounding district gradually changed. One of the most important related to the breaking up of the estate of Dr. Ash, and the formation of the district now known as Ashted. This advertisement read:

January 28th, 1788.—Land for Building upon, and for Gardens, in the Parish of Aston, adjoining the Town of Birmingham, late the Estate of Dr. Ash. The Public are respectfully informed that the said Estate will directly be laid out into streets for Buildings and for Gardens.—Persons desirous of taking part thereof, for either of the above Purposes, may be immediately accommodated with Quantities suitable to their Convenience.

After this a very imposing addition to the development of the town was begun, when plans were prepared for the erection of the Crescent in November, 1788:

November 17, 1788.—Crescent.—A Plan, Elevation, and Section of the intended Building, to be called the Crescent, with Proposals for the same, may be seen by applying to Mr. Rawstorne, Architect at Mr. Clarke's, Paradise Street, Birmingham.

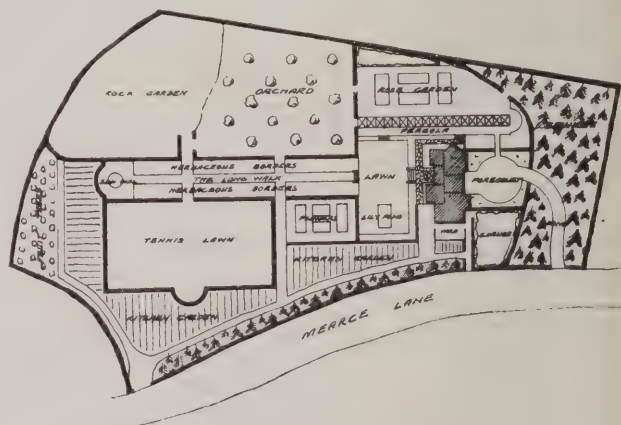
Negotiations with various owners proceeded slowly, and it was

not until the following year that the building scheme was begun in earnest.

In the fourth edition of Hutton, published in 1819, there is a concise description of this unique architectural scheme:

The Crescent will consist, when finished, of a handsome range of twenty-three houses of stone, elevated upon a terrace 1,182 ft. long, and 17 ft. high. The centre part is 622 ft. and each wing 140 ft., exclusive of a return in each, towards Cambridge Street, which is 141 ft. more. Only twelve houses are finished, chiefly in the wings, which cost £10,500. The remainder, which are to cost £200,500, are at a stand, owing to a ruinous war with France, which has been the destruction of our commerce, caused 500 of our tradesmen to fail, stagnated currency, and thinned the inhabitants.

Reference to Rawstorne's design, as shown in the engraving by Francis Jukes, discloses the architect's scheme for giving individuality to each house, by means of coupled pilasters without detracting from the sequence essential to the dignity of a crescent formation. We are indebted to a contributor for the notes on the scheme and the illustration of the Crescent (p. 51), prepared in 1804.



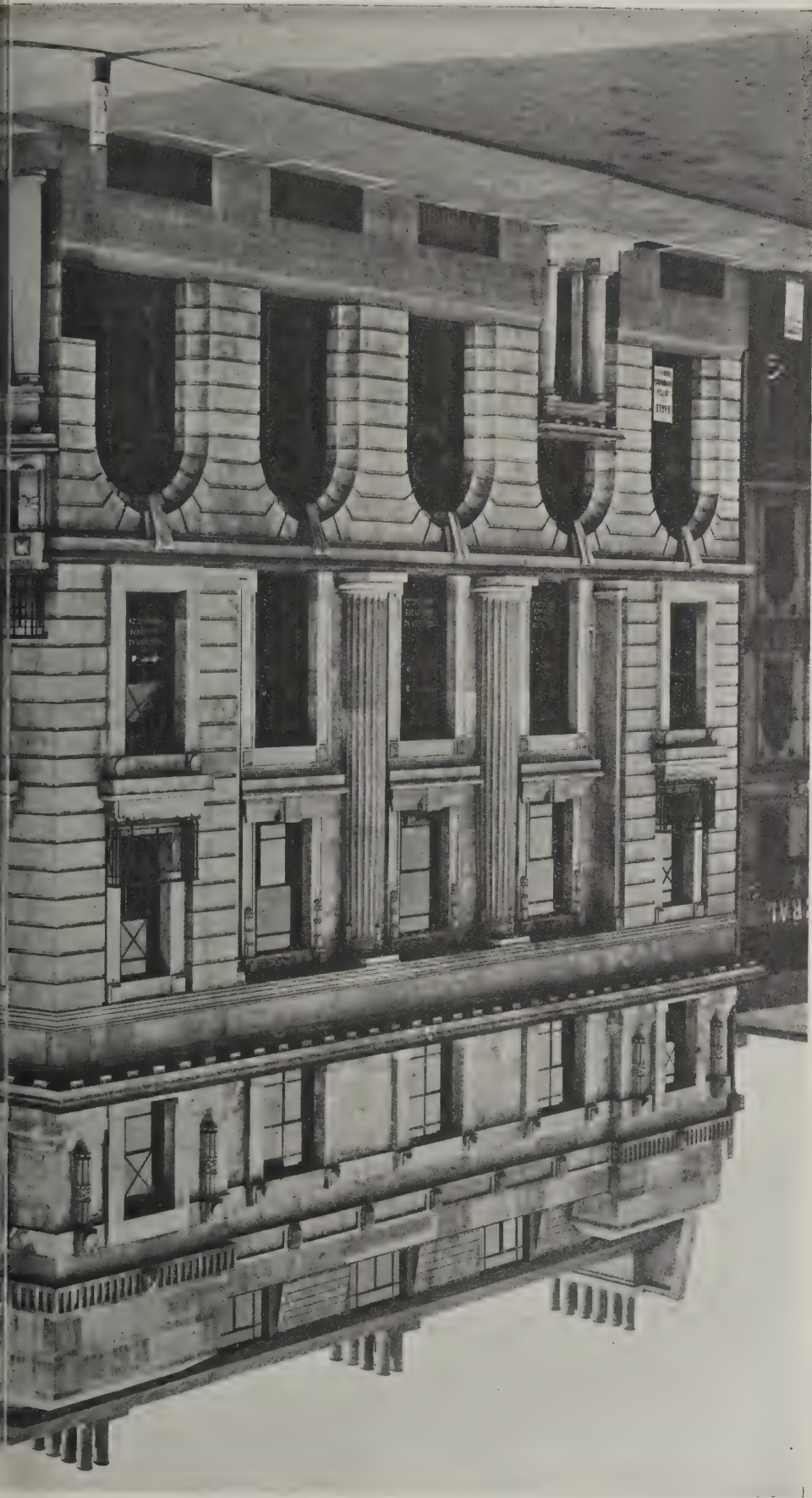
Lay-out Plan.



HOUSE AT BARNT GREEN, WORCESTERSHIRE.

HAROLD S. SCOTT, A.R.I.B.A., ARCHITECT.





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Three Generations of a Birmingham Firm of Architects

THE firm of Bateman and Bateman, architects, Birmingham, which is now represented by C. E. Bateman, is of some standing, at any rate in respect of time, having been founded by the late Joseph Bateman towards the close of the eighteenth century. At that time Birmingham was only a small place, and there was only one other architect in the town (of the name of Hornblower), and, when they could not attend to the business which came along, the clients of the time had to wait until either became disengaged and could undertake it. Then the dinner-hour was three o'clock, after which time nothing further was done for the day except in very urgent matters. To give an idea of the small size of Birmingham in those days, St. Philips, the Cathedral Church, was called the New Church, Bennett's Hill was a roadway through cornfields, and the late Joseph Bateman was wont to shoot rabbits on the site of the Town Hall, Congreve Street, near by, taking its name from "Cony Greve," the rabbit field through which the old line of roadway passed as a path.

Joseph Bateman worked in the style of the period—namely, the Greek revival executed in brick, or for the most part in brick and plaster. Some of the known houses remain in the town, also Greenway Terrace, Coventry Road, and at Erdington and Colshire and a good number in the South of Warwickshire, particularly at Leamington, where Joseph Bateman lived and practised for some time. He was associated with a brother Thomas, who was Bridgemaster for Worcestershire, and his name is still upon some of the bridges in the county. He died suddenly upon the scaffold of one of their buildings being erected in Great Charles Street.

John Jones Bateman, his son, early in life developed a great enthusiasm for architecture, measuring up and writing a history of the Beauchamp Chapel, at Warwick, but the cost of publication in those days being so great it was abandoned, the drawings and manuscript becoming lost. His admiration for Sir Charles Barry amounted to hero-worship. Barry's, he contended, was the master mind in the Houses of Parliament, yet not too conceited to refuse the available help of Pugin, with whom he came into touch through Hardmans, while carrying out the Birmingham Grammar School, for which the late John Gibson acted as clerk of works. John Gibson and John J. Bateman were friends, and saw much of each other during the time they both lived at Castle Bromwich. John Bateman was a great believer in competitions, urging it was the best way of making and bringing out the young architect, but he always looked upon them as "the sporting chance" of the profession: if a man chose to enter the list he must take the responsibility of disaster as in a steeplechase. John Bateman was in partnership early in life with a man named Drury, who retired from architecture

for the stage, and latterly with Benjamin Corsen, an old pupil who served as an improver with John Gibson. The firm became Bateman and Bateman in 1883, when John Joseph, the elder son, was taken in. He was chiefly interested in land and land surveying, his death by accident in 1885 necessitating Charles Edward returning from his improvership, with Thos. Verity and G. H. Hunt to assist in continuing the office. John J. Bateman died in 1903 at the age of eighty-five in a new house he built for himself in 1902.

Being particularly interested in education, he assisted in founding and was the first president of the Birmingham Architectural Association in 1874, but never became a member of the Institute.

Since 1903 C. E. Bateman has continued the practice upon the lines and traditions of the old firm, as far as possible. Alfred Hall, the Hon. Secretary of the Birmingham Architectural Association, and son of the late William Hall, architect, has given valuable assistance since the year 1898.

This Week's Plates

Some Representative Birmingham Buildings.

AS the plates shown this week all relate to Birmingham buildings, and are all by Birmingham architects, detailed comment and criticism would inevitably set up invidious comparisons. We would prefer, therefore, to say of them that, as far as they go, they are typical of the best work that is being done in Birmingham, or, to speak more inclusively, by architects practising in Birmingham, and fortunately each of them shows individuality of two kinds—that which is derived from the architect's personality, and that which arises from such diversity of function as distinguishes a church from a bank, a secluded half-timber dwelling from a row of commercial chambers in busy Broad Street; or Mr. Bidlake from Messrs. Peacock, Bewlay, and Cooke, Messrs. Harvey and Wicks from Messrs. Bateman and Bateman: or mutatis mutandis among all these fine buildings (save one) and all these good men. The plates are shown in the following order of paging: Union of London and Smith's Bank, Nuneaton (Bateman and Bateman, architects), 37; St. Oswald's Church, Small Heath (W. H. Bidlake, architect), 43; Broad Street Chambers (Peacock, Bewlay, and Cooke, architects), 49; Phoenix Assurance Company (Ewen, Harper, Brother and Co.), 54, 55; Kingsmead Close, Griffin's Hill (Harvey and Wicks, architects), 59. We have not been able to include in this number more than a fractional proportion of the subjects received; but many fine illustrations of buildings in Birmingham, or by Birmingham architects, will be given in future issues. In the meantime, however, the illustrations now reproduced afford irrefragable evidence of the strength and delicacy (by no means incompatible qualities) of the architectural talent concentrated in the capital of the Midlands.



HOUSE AT BARNT GREEN, WORCESTERSHIRE. HAROLD S. SCOTT, A.R.I.B.A., ARCHITECT.

THE RELATION OF ARCHITECT AND QUANTITY SURVEYOR.

BY G. FLINT CLARKSON.

It is well sometimes to look back and review how affairs have got into their present state, what developments they have been through, whether they now perform the service they originally set out to do, or if that purpose is changed whether for better or worse. The profession of quantity surveyor is very much a case in point.

Quantities, as they are understood today, were practically a fresh departure fifty years ago; the decline of the one-time full and descriptive specification is a matter of the last ten years.

The growth of a separate profession within the profession has, I think, brought about by degrees, and mainly owing to the corruptness of human nature, a serious lack of efficiency. The specification, much as every architect disliked it, was really the architect's *tour-de-force*; he might deputise other services in the preparation of his building, but he found that the specification must be written by his own hand, and in doing so he saw his building in detail, he realised what his design meant, in a way he is very apt to miss now that he writes a few hurried notes and prepares a few sketches for an expert to transfer into what in his heart of hearts he considers a vague mass or figures that he cannot exactly probe, and in which he is not perfectly clear of the relations of individual items to the design on his mind; the consequence being that in nearly every case many features get in the contract undigested, and design crawls in with which the master mind is out of sympathy. It is commonly said by the architect, "So-and-so knows my work, and can take off the quantities from the eighth scales within half an inch or so." Very likely this is the case, but it is a tacit admission by the architect of sterility and the incompleteness of his development, and that another mind not in close union should be able to fill in the detail of a picture merely sketched.

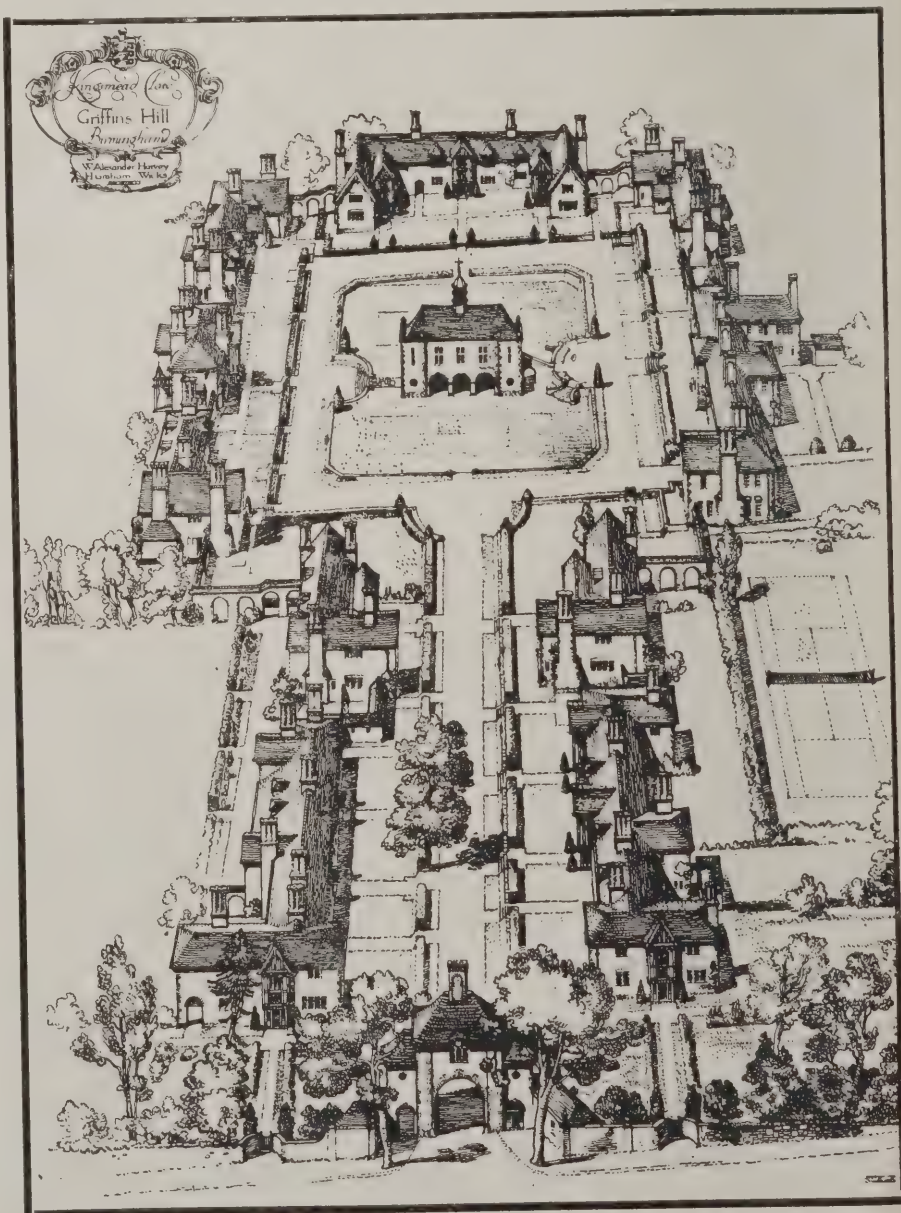
Many small details vaguely in the mind of the architect, which under the old system would have taken concrete form, are entirely missed by the quantity surveyor, and often decisions which have a very large effect on the building as a whole in the architect's opinion are settled by the surveyor without reference, as he does not realise the important bearing the architect himself would attach to this particular, and the latter, who has not probed his design in the way he used to do, does not discover it, possibly, until he is actually detailing the work, when he inwardly curses the surveyor as a fool and a muddler, and wants to know why the matter was not referred to him, the final result being a building less perfect than intended, or variations, with the consequent futile expenditure of labour.

The true fact is the lack of community of idea, the lack of the really close intimacy between the two professions, the fact that the processes are usually carried out in different sets of chambers, with an implied intimation: "Here you are; fire away and get it done, and don't bother me," which is the wrong environment to start with. It is doubtful whether two men working in the closest companionship ever really see entirely eye to eye; such harmony more or less exists between many architects and their personal assistants, and has in the past existed between architects and foremen and clerks of works, constantly working together; but since the

quantity surveyor became a professional brother this community has never existed where it is most needed. "Hustledom" has been chosen as the telegraphic address of an enterprising firm of contractors, and this is really the keynote of the majority of modern building. Up to now the architect living in the past tinkered with his method of work to try to get speed, and an organisation originally planned for a different set of conditions (which had itself rather got out of gear owing to the drifting apart of the men who should be in the closest union) was strained still further in the demand for pace; undue reliance was placed on the surveyor in matters on which he did not set out to be a specialist, and which really belonged to the architect's province, and altogether the conditions of work were unhappy and irritating to all concerned. It is impossible, and far from desirable, to resurrect the erstwhile specialist assistant, but the kernel of good in that system should be resuscitated as soon as possible by the intimate close work of professional brethren each appreciating the other and working with the other, and not with the slightest feeling of the mutual mistrust and contempt that now, unfortunately, seem universal.

EDINBURGH ARCHITECTURAL ASSOCIATION.

At a meeting of the Edinburgh Architectural Association, held at Edinburgh, Mr. T. P. Marwick was re-elected president for another year. In his address the President stated that seventy members had fought in the war, and that eleven had been killed. In connection with the housing question, he pointed out that charity rents to selected occupiers, compelling poorer people to contribute the loss in rates and taxes while possibly paying an economic rent themselves, formed no permanent solution, and must end in failure. If the law of supply and demand became operative, and oppressive Acts were relaxed, equilibrium would be restored and supply equal demand. Referring to town-planning matters, he said so many restrictions were apparently about to be imposed upon everyone that development would be seriously handicapped. There ought to be no regulations that would hamper without effecting any important result. Building was stated to be in a very unsatisfactory condition, and output might be doubled with little injury to anyone. Labour formed three-fourths of the cost of building, and



KINGSMED CLOSE, BIRMINGHAM. HARVEY AND WICKS, ARCHITECTS.



KINGSMEAD CLOSE, BIRMINGHAM HARVEY AND WICKS, ARCHITECTS.

few but the State could afford to build at present prices, while the State was dependent upon the people to meet all obligations. In conclusion, he advocated the institution of a Chair of Architecture in the University, with a degree course.

BIRMINGHAM ARCHITECTURAL ASSOCIATION'S NEW COUNCIL.

The following is a list of the new Council from July 1 for session 1919-20: President, H. T. Buckland; vice-president, Rupert Savage; council, W. H. Ashford, C. W. Davis, J. Crouch, E. Harrison, H. W. Hobbiss, F. Goldsborough, A. E. McKewan, A. J. Margetson, G. S. Nicol, F. J. Osborne, H. W. Simister, W. A. Harvey, and A. Hale, ex-officio; hon. librarian, B. R. Saunders; hon. treasurer, C. Silk; hon. secretaries, S. N. Cooke and Bernard A. Porter. The offices of the Association (which is, of course, allied with the R.I.B.A.), are at the Royal Society of Artists, New Street, Birmingham, and the hon. secretaries' offices are at 18, Bennett's Hill, Birmingham.

CENTRAL CONSULTATIVE BOARD.

The following official circular, dated June 27, has been received from the R.I.B.A.: "I am directed to inform you that, with a view to assisting county, municipal, and local authorities of the London area in the selection of architects for their housing schemes, the Royal Institute of British Architects has appointed a Central Consultative Board for the nomination of candidates qualified to undertake such work.

"The Board is prepared to advise and confer with representatives of the authorities and their architects, both in connection with the preparation of such schemes and during their execution. The advice and assistance of the Board involve no addition to the scale of fees fixed by the Royal Institute for the remuneration of architects employed for housing schemes, providing the nomination of the Board is accepted by the authority concerned.

"The Central Consultative Board consists of the following members: The Presi-

dent R.I.B.A., Mr. Henry T. Hare, Mr. Wm. Dunn, Mr. H. V. Lanchester, Prof. Patrick Abercrombie, Mr. W. E. Riley, Mr. A. W. S. Cross, Mr. E. Guy Dawber, Mr. H. D. Searles-Wood, Mr. W. A. Harvey, Professor S. D. Adshead, Mr. Courtenay M. Crickmer.

"Applications for the assistance of the Board should be addressed to 'The Secretary, Royal Institute of British Architects,' at the above address."

BUILDING TRADES LABOUR SCHEMES.

Building Trade Federation.

The Council of the Building Trades Federation is to be called together shortly to devise a scheme for labour which will have the approval of both employers and labour. The need for some such scheme has become very urgent, owing to ill-advised Government interference with the industry, whether through refusal to ratify awards of the Conciliation Boards, or through "New Dora" threats to dilute labour.

Birmingham Housing Exhibition

THIS exhibition, which opens to-day at the Town Hall, Birmingham, and will close on July 19, has been promoted by an influential council, and with the Lord Mayor (Sir David Brooks) as president, and the Right Hon. Austen Chamberlain and Alderman Neville Chamberlain, M.P., among the vice-presidents, has for its primary object the stimulation of inventors and traders to show what can be done towards a practical solution of the housing problem. As this issue of the Journal is published on the morning of the day on which the opening ceremony takes place, it is obviously impracticable to give this week a complete description of the exhibits; but we are enabled, through the courtesy of the managing council, to

produce the following descriptions, which will be supplemented in next week's issue:

Gas in the Home.

The City of Birmingham Gas Dept., Council House, Birmingham, by means of a model house (Exhibits Nos. 28 and 29) show the many and varied uses to which gas can be applied in the home of to-day, such as for lighting, heating, and cooking purposes, and for the provision of hot water for domestic uses. "The Builder's Set," which is a combination of gas-cooker, gas-fire, gas-heated hot-water circulator, and domestic wash boiler, shows how gas, with its ever-ready service, can supplant the coal range and brick-built

copper and its attendant evils of soot and dirt. The contents of the cabinet showcase on the stand show a few of the important by-products obtained from the destructive distillation of coal in the manufacture of coal gas. As is known, with a coal fire all the valuable by-products escape through the flues to the outside atmosphere in the form of soot and smoke, whereas at the gas works the by-products, or distillates, are used and form the basis of our vital chemicals, manures, dyes, etc.

Patent Ventilating Window.

Messrs. James Gibbons, St. John's Works, Wolverhampton, show (No. 35) a window that has been designed and



DINING ROOM, HONILEY HALL, KENILWORTH. BATFMAN AND BATFMAN, ARCHITECTS.

patented specially to meet the requirements that have been lacking in small houses, i.e., perfect ventilation, no side draughts; flowers or plants can be placed on the window sill without fear of their being knocked over by projecting stays, which are always used on side-hung casements; no panes of glass can be broken owing to the casement being blown-to in rough weather or in a sudden squall. The sliding sash, when open, gives ample room for the side and top lights to be easily reached from inside, and the sliding sash itself when open to its full extent automatically engages on specially designed hinges which allow it to turn inwards into the room and enables the outside of the sliding sash itself to be cleaned. Again, the window is fitted with a locking arrangement which allows it to open 3 in. to 4 in. for ventilation, and is burglar-proof, inasmuch that it has to be closed before it can be unlocked. The firm exhibit also a complete set of locks and furniture, designed specially to meet the requirements of the Local Government Board, who have placed orders for them.

Hope's All-Steel Cottage Windows.

Messrs. Henry Hope and Sons, Ltd., 15, Lionel Street, Birmingham (London office, 59, Berners Street, W.1), show at Stand 1 examples of their cottage windows in standard sizes which have been determined after careful consideration and consultation with several architects of wide experience in this class of building. The range of types manufactured provides for all possible requirements in an ordinary cottage or artisan's dwelling. The windows are substantially made, the joints being welded, and all fittings, hinges, etc., rivetted, providing a practically indestructible window. These patent fittings give a wide range of ventilation, from a quarter of an inch opening to a right angle; securely holding the window in any position without rattling. The installation of these windows is simple, as they can be built in as the work proceeds. Greatest speed in building is thus made possible, and a perfect joint between the steel frame and the walling is obtained. The windows are adaptable to any class of building material, and having been standardised can be produced rapidly in large quantities.

Gas Cookers.

Messrs. Arden Hill and Company, Ltd., show (No. 32) a high-grade cooker, the "Super-Acme," embodying the most recent improvements in modern gas-cooker construction. Highest efficiency with low gas consumption are claimed for it. The firm show also their "Ideal" gas cooker for ordinary domestic use, and a second-grade cooker, "The Patriot"; ventilating gas-grates, which give very high percentage of radiant heat without drying the air; a gas radiator (white flame for use without flue), which is odourless and of low gas consumption; washing-copper and gas iron to minimise labour and ensure cleanliness; and improved apparatus for hot-water supply.

Ironite Company's Specialities.

The exhibit of the Ironite Co., Ltd., of 11, Old Queen Street, Westminster, S.W.1, includes their waterproofing and flooring cements, and their Ironite and Portland cement slurry and grouting. Ironite cement for flooring, mixed with cement and clean crushed granite or sharp, clean sand, is used for floor toppings, and for general use about $3\frac{1}{2}$ lb. of Ironite is required for each square yard. The firm claim that the flooring is economical in

cost, impenetrable, and non-absorbent, and very suitable for use in factories, warehouses, and similar buildings where there is much wear and tear. For their Ironite and cement slurry or grouting, the firm claim that by it the most porous brickwork, breeze blocks, concrete, etc., are rendered waterproof. The Ironite and cement are first mixed dry, and then applied (one coat is sufficient) in the form of a thick slush with a brush, and the material supersedes rendering, to which it is similar in colour and appearance. It is stated that nearly two million square yards of the walls, etc., of aerodromes and other Government buildings have been treated in this manner. Ironite cement is for waterproofing and oilproofing all kinds of porous materials, such as bricks, concrete, and tiles. We are informed, by the way, that this firm have perfected, and are about to produce commercially, a machine for making two-cell and three-cell blocks, the machine being also fitted with very ingenious devices for making closed-end blocks.

The Lady-Maid Kitchen Cabinet.

The "Lady-Maid" Kitchen Cabinet Company, 80, Victoria Street, Westminster, S.W., exhibit at Stand 52 their admirable kitchen cabinet, of which we gave an illustrated description last week. Its points, briefly recapitulated, are: It saves labour and time and is a hygienic fitment for the preparation of food and storage of all materials and utensils used in connection therewith; saves space, being most compact and having a sliding table; provides a place for everything, and so saves miles of unnecessary walking; halves the work, solves the servant problem, and abolishes muddle and drudgery. It is of dust-proof construction, has an extending porcelain iron-work table, a flour hopper with regulating outlet, and oak rolling shutters. Special attention is drawn to the "Worker" pattern for use in housing schemes.

Grates, Ranges, and Boilers.

Parker, Winder, and Achurch, Ltd., hardware merchants and manufacturers, Broad Street, Birmingham, show (Stands 24 to 27): (1) The Forward combination grate, complete with wood mantelpiece, tiled hearth and curb; (2) the "Inter-oven" grate, with wood mantelpiece, tiled hearth, and curb; (3) 3 ft. Stafford cooking range, with open and closed fire, complete with chimney-piece and bath boiler; (4) 3 ft. Claco oven grate, with special bath boiler applicable to bath fitted on ground floor; (5) combined bedroom grates and mantelpieces; (6) airing cupboard; (7) domestic hot-water boiler, fitted with radiators and piping; (8) door and window fittings.

All-gas Labour-saving Appliances.

The Parkinson Stove Company, Ltd., Bell Barn Road, Birmingham, show (Exhibit No. 30) all-gas labour-saving appliances, set out en suite, comprising scullery, bath room, living room, and bedroom, in which is exhibited the Parkinson "New Cottage" water heater which supplies rapidly a small quantity of hot water for washing-up, or thirteen to twenty gallons of hot water for the bath. This, the firm state, is the water-heater referred to in the following extract from Report of the Women's Housing Subcommittee of Ministry of Reconstruction Advisory Council (page 5, paragraph 10): "We are told by tenants of small houses in which this new heater has been installed that in practice both large and small quantities of almost boiling water can be pro-

cured in an even shorter time than stated." Other exhibits by this firm are as follows: The Parkinson "Unique" washing-copper and fruit bottler. The Parkinson "Pillow" Cooker. The "Conrad" Convection-Radiant gas-fire for which is claimed that it heats a room more quickly and diffuses the heat more evenly than any other similar size of fire. The "Chatsworth" gas-fire for efficient heating of artistic rooms. Parkinson's "Teba" and "Pearl" geysers for the instantaneous supply of hot water to the bath. The Parkinson "Gacylette" for the sink. Hot water always ready with extreme economy of gas.

Joinery for Housing.

Messrs. Sharp Bros. and Knight, timber merchants, joinery manufacturers, etc., Burton-on-Trent, show at Stands 22 and 23 specimens of joinery suitable for general housing, the exhibits including doors and windows, gates, chimney-pieces and dressers.

Domestic Gas-cookers and Boilers, Hot Water Supply, etc.

Messrs. John Wright and Company, Essex Works, Aston, Birmingham, show the "Eureka" design, embodying every new improvement that the makers' fifty years' experience of gas-heated appliances can suggest; also the new "Eagle" gas range—a new type of gas-cooker, which, in regard to efficiency and economy, is far superior to the ordinary designs, and is much more pleasing in appearance. The special features claimed for the "Hecla" wash-boiler, also shown, are its exceptional strength in construction and cleanliness in use. The "B.T.U." hot-water set provides—at low cost—hot water for bath, lavatory, and sink: the thermostat automatically controls gas consumption. All the gas-fires exhibited are fitted with silent burners. An important advantage of several designs is "Injector-Ventilator," which affords ventilation equal to that of modern coal grates. The "Cabinet" design is a combined cooker and fire, and the "Chassis" is an inset gas-fire for coal grates.

OTHER EXHIBITORS.

Among other exhibitors, to some of whom we shall give further attention next week, are:—

The "Bell" Washer Company, Fielden Street, Blackburn; City of Birmingham Electric Light Dept., 14, Dale End, Birmingham; Berry's Electric Limited, Lozells Street, Birmingham; British Westinghouse Electric and Manufacturing Company, Ltd., Trafford Park, Manchester; British Thomson-Houston Company, Ltd., Rugby, and Paradise Street, Birmingham; Premier Electric Heaters, Ltd., 258, Bradford Street, Birmingham; Credenda Conduits Company, Ltd., Chester Street, Aston, Birmingham; General Electric Company, Witton, and 42, High Street, Birmingham; Edison and Swan United Electric Light Company, Ltd., International Exchange Buildings, Edmund Street, Birmingham; St. Helen's Cable and Rubber Company, Ltd., St. Helens, Lancashire, and 167, Edmund Street, Birmingham; Benham and Sons, Wigmore Engineering Works, 66, Wigmore Street, London, W.1; Daisy Vacuum Cleaner Company, Leamington Road, Gravelly Hill, Birmingham; Hassall and Singleton, Freeman Street, Birmingham; Ransome Ver Mehr Machinery Company, Ltd., 2, Central Buildings, Westminster, London, S.W.1; The Monometer Manufacturing Company, Birmingham; and Messrs. Cliffords, Ltd., St. Nicholas Square, Leicester.

BOOK NOTICES.

"The Design of Factory and Industrial Buildings."

Mr. Ernest G. W. Souster, A.R.I.B.A., has issued, through Messrs. Scott, Greenwood, and Son (price 10s. 6d.), a handy volume entitled "The Design of Factory and Industrial Buildings," in which are collected the chief data relating to this class of design.

The opening chapter emphasises the changed ideas on the subject which have been maturing during the past few years, and attributes the movement in the right direction mainly to the war. Throughout the book the author refers to the introduction of welfare work amongst the employees. It is strange that so vast a change in sentiment on this point should have been brought about so suddenly—but, then, the war has caused many cataclysms. Provisions for comfort that a few years back would have been regarded with scorn and derision are now being recognised as a very valuable asset towards larger and better output.

On the subject of the sanitation of the factory, Mr. Souster has something to say which should go home to many manufacturers; for instance, his assertion that "the provision of improved sanitation in the factory is a phase of welfare work that has been too long neglected" is only too true. It is therefore only natural that the model factories at Port Sunlight, Bournville, and York claim a due share of attention, and the similar enterprises of some large American firms contrasted very vividly with the lethargy which has too long prevailed among British manufacturers.

Then, again, the architectural side of the question is given a prominence which



MISSION HALL, SELLY OAK, BIRMINGHAM.

A. J. DUNN, F.R.I.B.A., ARCHITECT.



MISSION HALL, SELLY OAK, BIRMINGHAM: INTERIOR. A. J. DUNN, F.R.I.B.A., ARCHITECT.

will gratify those who hold that it is a duty owed to the community to design factories with some regard to architectural amenity. On this point the author is sound. At the commencement of Chapter XIII. he says: "The opinion is often expressed that an architect is not required for the design of a factory and industrial buildings, and that the simplicity of their lines leaves no chance of any character being impressed upon them. Such statements seem to spring from a mistaken notion that an architectural character is something that can be given to a building by, first, sacrificing certain uses for the purpose of gaining effect; and, secondly, by adding extraneous ornament in the same manner that sugar decorations are added to a cake, and both ideas are erroneous!"

This, again, restates a view that cannot be too frequently reiterated: "The monotony of the average Victorian-age factory is apparent to every one, and it must be admitted that when money was allowed for the elevations, ornament and details that would have been just as much in place on a block of flats as on a small public building were often wrongly employed."

The hardly less important question of lighting is gone into very thoroughly, and attention is called to the fact that the great difference between the modern factory and the factory of the past is that the latter had large wall surfaces and few windows, whilst new factories are nearly all windows. Of course, the possibility of concentrating all weights on reinforced concrete piers thus relieved the walls of their primary duty of supporting the building.

Numerous other details of factory construction are considered in detail, and the book is certainly a handy guide to a subject of first-class topical importance. It is usefully illustrated.

"The Design of Factory and Industrial Buildings."
By Ernest G. W. Souster. London: Scott Greenwood & Son. Price 10s. 6d.

COMPETITIONS OPEN.

July 14.—*Penzance: Designs for War Memorial.*

£25 is offered for selected design. Cost not to exceed £2,000. Panels required for 200 names. Designs, with estimated cost, to be submitted under a nom-de-plume to C. E. Venning, 58, Morrab Road, Penzance.

September 29.—*Incorporated Institute of British Decorators.*

The Institute is offering two travelling studentships of £25 each for competition. The drawings must reach the Secretary of the Institute, Painters' Hall, E.C.4, not later than September 29, 1919. Further particulars may be obtained from the secretary.

September 29.—*Bridlington: War Memorial.*

The War Memorial Committee invite designs for a war memorial. Premiums £100 and £50. Sending-in day, September 30. Particulars from the secretary, 79, Quay Road, Bridlington.

No Date.—*Liverpool: Reconstruction of Pierhead.*

The Corporation Reconstruction Committee invite competitive architectural designs for the reconstruction of the pier-head site. Premiums of 1,000, 500, and 250 guineas are to be offered.

CORRESPONDENCE.

The Institute, the Profession, and the Assistant.

SIRS,—Very few people, I imagine, will quarrel with Mr. C. Percival Walgate's shrewd estimate of the situation that confronts us to-day, so I need not ask you to publish the following advertisements which, or something very like them, have appeared in the daily Press:

"Architectural Draughtsman Required, in Factory, to prepare detail drawings for extension of factory and offices."

"Architect has vacancy for an Articled Pupil.—Good opening for youth leaving school who is smart at figures and fond of drawing. Low premium; mostly returned in wages."

There we have a pretty complete answer to the question as to how the present situation has come about. These two advertisements, appearing side by side, afford a perfect example of that vicious circle—the present system—in which the "youth with a taste for drawing," who gets, if he is lucky, most of a premium returned in wages, is introduced into the profession, becomes the assistant at a wage-cut figure and finally will be in a fair way to deprive the architect of fees that he attempts to make up by taking more pupils.

This is all the more pertinent to-day, as there are signs that the R.I.B.A. is waking up from a sweet sleep of about five years duration to find that a large number of houses are going to be built, and that architects are not going to build them. Hence the circular to allied societies asking for evidence of assistants carrying on housing schemes under the local borough surveyors. Evidence should not be difficult to collect, but to make use of it is no quite so easy. It may seem uncharitable to say so, but it looks as if the profession having carefully made its bed with plenty of knobs in it, is going to be forced to lie on it most uncomfortably for some time to come.

The R.I.B.A., being the only chartered body in the profession, is supposed to represent the profession, and, as far as I know, has done nothing (and apparently intends to go on doing nothing) to stop the systematic flooding of the profession by the introduction of an unlimited number of premium pupils, with a callous disregard of their qualifications and opportunities and



TECHNICAL SCHOOL, SUTTON GOLDFIELD. CROUCH, BUTLER, AND SAVAGE, ARCHITECTS.



THE KNOLL, LEICESTER: HALL.



GUILD HOUSE, KNOWLE. W. H. BIDLAKE, ARCHITECT.

sequent chances of success. Is it to be wondered at that these people, for whom there is no place in the existing system after the expiration of their licences, with, possibly, "the return of most of the premium in wages," should seek security and safety with reasonable hours of labour in a public office, or do their drawings for factories or offices at a high figure as they can obtain? If, by doing so, they deprive the practising architect of his work, whose fault is it but their own? I see that Mr. G. Berkeley, M.A., A.R.I.B.A., writes to the "R.I.B.A. Journal" with a grievance. So far as I can see, the grievance is on the side of the people forced by a vicious system to do the work at less than its full value. Mr. Walgate foreshadows still more reforms, and seeks a solution in registration. No other policy has ever been proposed, therefore it holds the field. But after again the old pre-war registration,

which would have created an even more privileged class than exists at present. Tammany Hall itself, in my opinion, could not have persuaded even the most reactionary Government in the world to swallow such a Bill, and we were advised, while we prepared it, that it stood no chance. No Bill that leaves the assistant where he is to-day can ever pass into law.

Registration must come about if nothing less than compulsion will do, and with it complete control of architects by the profession, with power to make its laws and break those who break the laws, for then, and only then, will it be possible to deal with the status of the assistant—a question that has been burked already far too long.

Mr. Walgate looks to reconstruction within the Institute. That is one way; and if that is not possible, then in the name of right and justice, let the Institute pass away.

WILLIAM FRISKIN, A.R.I.B.A.

Stratford-on-Avon.

SIRS,—Herewith I enclose a copy of a letter that I addressed to Dr. Addison regarding Stratford-on-Avon, in case it may be of interest to your readers.

ALFRED A. POTTER,
Secretary Town Planning Institute.

[Copy of Letter.]

To the Right Hon. Christopher Addison,
M.P., President of the Local Government Board.

SIR,—The Council of this Institute have had under consideration the controversy which has arisen at Stratford-on-Avon with reference to the proposed factory which it is alleged would destroy the amenities of that historic town.

Without expressing any opinion on the present controversy, the Council feel that



THE KNOLL, LEICESTER: NORTH FRONT. W. H. BIDLAKE, ARCHITECT.

it does demonstrate very clearly the need for a town-planning scheme.

Such a scheme would, among other useful things, after careful investigation and subject to the approval of your Department, decide which parts of the town were suitable for factories and those in which no factory should be allowed.

A scheme is intended to preserve existing amenities and to settle the orderly growth of a town in the interest of all the inhabitants, and my council venture to suggest that in no place in Great Britain is a scheme more necessary than at Stratford-on-Avon, where for centuries a wealth of national and historical associations has been enshrined in beautiful surroundings.

Had a scheme been in existence there, the present controversy could not have arisen, and my council therefore respectfully ask that the corporation be requested to proceed forthwith with the preparation of a town-planning scheme.

I have the honour to remain,

Your obedient servant,
ALFRED R. POTTER, secretary.

SCOTTISH HOUSING.

In the House of Commons, last week, it was stated that the Department of Buildings Material Supply were giving orders for building material in advance of manufacture, were making liberal payments on account and were affording help to the manufacturers in obtaining coal, machinery, transport, and labour. As regards labour, arrangements had been made between the Local Government Board of Scotland and the Edinburgh Divisional Office of the Ministry of Labour, under which the latter was kept informed of all housing schemes which the

local authorities in Scotland were in a position to put in hand. The Employment Council and the local employment committees had invited local authorities to notify their labour requirements to the employment exchanges. The question of the supply of labour was being considered in consultation with other departments concerned and with bodies representative of the building industry. Local authorities in Scotland with a ratable value under £200,000 could obtain loans from the Public Works Loan Committee for housing schemes. Larger authorities must raise loans in the open market, and the Treasury had already undertaken to assist them by granting a substantial subsidy towards any loss on the schemes. Having regard to the heavy burdens falling on the Treasury in connection with existing short-term loans, it could not also undertake at the present time to raise loan capital for the local authorities.

WEEKLY HOUSING RETURN.

The return of housing progress issued weekly by the Local Government Board (which will be continued by the Ministry of Health) states:—

The number of new housing schemes considerably less than half the rural authorities and public utility societies during the week ending June 28 was 232, a number well above the average of previous weeks. The total number of schemes that have been submitted is now 2,750, representing considerably more than 30,000 acres. Housing schemes have now been forthcoming from more than half the urban authorities in the country, but from considerably less than half the rural authorities.

Delay, in some cases, is attributed to anxiety and difficulty with regard to the

raising of local loans to finance housing proposals. Experience in this matter seems to differ considerably in different localities, some local officials reporting impossibility to raise loans locally while others report no difficulty whatever. The possibilities of propaganda in arousing local interest and support in the raising of housing loans are being exploited in some districts with success. Suggestions for local loan-raising campaigns on the lines of those promoted every year for local charities, life boat service, etc., are under consideration in some districts. Cases where it can be shown that every possible effort has been made to raise local loans, but without success, the Ministry may be consulted as to further procedure.

The relative advantages of brick and concrete are to be tried at Luton, where tenders for house construction in brick and concrete respectively showed a decided money advantage in favour of concrete. The Ministry have agreed to building in concrete of a certain number of houses of the scheme as an experiment without prejudice to their decision in the case of the remaining houses of the scheme.

House plans approved during the week by the Ministry numbered 1,200 (houses), a greater number than has been approved in any previous week.

The County Council of the East Riding of Yorkshire propose to erect a number of cottages in different parts of the county for their employees, including school teachers.

Details of the schemes submitted by local authorities during the week are as follows:—

Building Sites.

Schemes submitted.—The number of schemes submitted by seventy-eight local authorities was 230, bringing the total



THE KNOLL, LEICESTER: STABLE YARD. W. H. BIDLAKE, ARCHITECT.

number of local authority schemes to 2,703. In 2,462 of these the area is stated, and it amounts to 29,514 acres.

Schemes approved.—Eighty-three schemes, promoted by thirty-five local authorities, were approved during the week. Altogether 790 schemes have now been approved, representing an area of approximately 12,524 acres.

Lay Outs.

Schemes submitted.—During the week twenty-eight local authorities submitted thirty-two lay-out schemes, bringing the total number of lay-out schemes submitted by local authorities to 361.

House Plans.

Schemes submitted.—Eleven schemes were submitted during the week by nine local authorities. The eleven schemes represent 323 houses. In all, 217 schemes have been submitted by local authorities, representing 14,001 houses.

Schemes approved.—Four schemes, representing 1,249 houses, were approved during the week. The total number of local authority schemes approved is 132, representing 8,134 houses.

"THE CRAFTSMANSHIP OF THE BUILDER."

One great desideratum of the industrial reconstruction that must follow hard upon the proclamation of peace is an increased sense of responsibility, leading to heightened efficiency and improved production. Unless the builder, for instance, takes a keen and an intelligent interest in his work, the product will be poor either in quantity or in quality, or in both; and this rule applies in greater or less degree to master and man, to labourer and skilled artisan. To do his best each and every man engaged in the work of building must be to some extent enamoured of it, take a pride in it, pursue it passionately, as an artist would say. That the spirit in which we work acts like a leaven, and affects the result for good or ill, is now a commonplace of psychology, and Messrs. Higgs and Hill, Ltd., of Crown Works, South Lambeth Road, London, S.W., have long shown, in a pleasant diversity of ways, their appreciation of the potency of this factor in craftsmanship. They have, it

would seem from many indications, steadily and persistently endeavoured to create about them the kind of atmosphere in which excellent conscientious craftsmanship may most vigorously flourish. It is in this vein that they may be presumed to have issued their beautiful booklet on "The Craftsmanship of the Builder." This publication is in effect an album of drawings, one of which is reproduced in colours from a water-colour by Francis Dodd, a dozen others in black-and-white being reproduced from pencil drawings by Frank L. Emanuel. These illustrations, as we are told in the introduction, are "depicted by the pencil of the artist instead of through the photographic lens, because it is considered that the camera, while in some respects the more exact medium, cannot convey the true essence—the 'feeling' in the work, as sympathetic rendering can only come from the artist's hand, as a direct expression of the æsthetic sense." They are so beautiful to look at that they would need no further justification. They represent, however, buildings in which Messrs. Higgs and Hill



MESSRS. GARRARD'S PREMISES, ALBEMARLE STREET, W. SIR ERNEST GEORGE AND YEATES, ARCHITECTS.

From "The Craftsmanship of the Builder."

have translated into three dimensions the designs of eminent architects. A drawing of lower Regent Street shows building operations in progress at Nos. 11 and 12, Waterloo Place (Claud W. Ferrier, architect); and the other illustrations show the Tate Gallery (Sidney Smith), the Marine Institute on Tower Mill (Victor Wilkins), Victoria Station (W. J. Ansell and P. C. Tempest), the French Protestant Church in Soho (Sir Aston Webb, P.R.A.), the offices of the L.C.C. Education Department on the Victoria Embankment, exterior and interior views of the United Kingdom Provident Institution in the Strand (Henry T. Hare, P.R.I.B.A.), exterior and interior views of a house at Orpington (Major Maurice E. Webb), the Royal Naval College at Dartmouth (Sir Aston Webb, P.R.A.), premises of Messrs. Garrard and Co., in Piccadilly (Sir Ernest George and Yeates), the chairman's room in Baring's Bank (Gerald A. Horsley), and one of the erection shops at the Crown Works. Facing each drawing there is a triad of philosophical sentences commendatory of good building or of the methods and practices that tend to it. These make fine stimulating reading, and, with the pictures, convey a very strong impression that the sponsors of this album realise to the full the responsibilities of the builder to the architect, the relation of craftsman to both, the need for sympathetic co-operation and mutual confidence all round, the interaction of the various psychological forces which, after all, are the motive power at the base of human action and achievement. One cannot open the booklet anywhere without finding a thought or a picture that increases respect for the art and craft—and, may we add, the aspirations?—of the builder, and in creating this impression the publication would fulfil an excellent purpose, even if it had no more direct object—that of manifesting the understanding and the competency of an eminent firm of building contractors and the spirit in which they work.

COMING EVENTS.

WEDNESDAY, JULY 9, TO SATURDAY, JULY 19.

Birmingham Housing Exhibition, Town Hall, Birmingham. Address, Hon. Organiser, Chamber of Commerce.

FRIDAY, JULY 11.

The Architectural Association, 35, Bedford Square. Ordinary general meeting. Agenda: Nominations; election of new members; distribution of prizes; 3 p.m.

SATURDAY, JULY 12.

Architectural Association summer visit. Knole, Sevenoaks, by permission of the Right Hon. Lord Sackville. Charge for admission, 1s. Train from Charing Cross, S.E. and C.R., 2 p.m.

Great Northern Central Hospital, Holloway, N.7.—Mr. Kennedy Jones, M.P., will perform the opening ceremony of the "Summerlee" Hospital of Recovery (East Finchley), which he has lent to the Great Northern Central Hospital, Islington, as a new branch for the use of discharged disabled soldiers and sailors, their dependents, and civilian patients. 3 p.m.

TUESDAY, JULY 15, TO THURSDAY, JULY 17.

Half-yearly or summer meetings of the National Federation of Building Trades Employers of Great Britain and Ireland. July 15: Executive Council meeting at

Carpenters' Hall, 10.30 a.m. Dinner at the Trocadero Restaurant 6.30 p.m. July 16: Half-yearly general meeting at Carpenters' Hall, 10.30 a.m. Reception at Caxton Hall, 8 p.m. July 17: River Thames trip, starting from Westminster Pier 10 a.m.

ENQUIRY ANSWERED.

Building Line.

K. B. (Devonshire) writes: "What is really a building line? In a back street of a country town I have to put up a new house on the site of an old one, and the local authority insists, that I shall set it back nearly 2 ft. behind the former frontage. Am I not entitled to build to the full extent of the former frontage?"

—Most certainly not. We are surprised that a qualified architect should not know better than to raise such a question. The line of frontage is determined by the local authority, and you must conform to it, no matter how far it sets back your building.

TRADE AND CRAFT.

Reinforced-Concrete Floors.

It is of necessity that much attention is at present being directed towards housing schemes of varying degrees of magnitude. Much thought is being given and much ingenuity displayed with the object of evolving some form of construction which may be pleasing in appearance and useful in effect. The great difficulty is in the construction of the floors, there being a need, owing to the temporary shortage and consequent high price of timber, for providing a substitute for that material, and the only substitute, apart from freak suggestions that are not likely to come to anything, is concrete, which will necessarily be reinforced.

But concrete is also expensive if required to be laid across large spans without supporting beams. We speak of large spans comparatively, and would class under this heading anything from 10 ft. upwards. A large span must be of thick concrete, otherwise there is objectionable deflection, and thick concrete, apart from its own expense, means more weight to be carried, and consequently more reinforcement and more expense. Hollow floors will provide the necessary thickness to prevent deflection, are more sound-proof, and are probably warmer; but the less weight hardly means less expense, as there is increased labour of construction to set off against decreased cost of materials.

We [J. F. B., in "Floor Slab Reinforcement"] look rather for a solution of the difficulty to a form of construction which will utilise a thin floor slab laid on closely-spaced beams, approaching in some way to the style of wood boards on wood joists, and the problem seems to require a standardisation of beams and slabs in a manner that can be carried out economically and quickly without practical difficulties. The co-operation of architects and concrete experts may eventually secure this result.

We can say without hesitation that there are many advantages and no disadvantages in constructing these roads of reinforced concrete. It is not sufficiently well known to the public, although it is now a subject of wide interest among road surveyors, that concrete roads have been used to a very large extent of recent years in America, and have become the standard of good construction. The first reason for this is that the cost of maintenance is less than one-tenth of the cost of maintenance of macadam roads. This figure, i.e., one-tenth, is a conservative figure, and there is

definite proof that reinforced concrete roads costing £8 per mile per annum to maintain may take the place of macadam roads costing from £80 to £200 per mile per annum to maintain. Further comment is hardly required.

As regards the capital cost the pre-war figures for concrete and water-pitched macadam (including a hand-pitched foundation) were about equal at 5s. per square yard. It is true that macadam roads were built for less than 5s. per square yard—perhaps for half this figure—but they were hardly fit to be called roads, and were more or less a mass of puddles in wet weather and correspondingly dusty in dry weather, and were without proper foundation, so that reconstruction was an early necessity or else the inhabitants of the locality had to grin and bear everlasting discomfort.

There are other reasons also for which the reinforced concrete road is becoming a matter of public interest, and these reasons will appeal forcibly to architects. Concrete roads are free from dust in summer and free from mud in winter, so that they are a pleasure both to riders and to pedestrians; they are laid with a small side slope (1 in 50) which provides an agreeable running surface and eliminates slip. The traffic on account of this small side slope travels on all parts of the road and is not inclined to seek the crown whenever possible, as is the case with macadam roads on which, owing to the large camber required to throw off the water, it is much more comfortable to drive along the crown than along the sides.

Here in England we have reinforced concrete roads in the worst possible situations carrying heavy traffic with practically no cost of maintenance, and providing pleasant and easy running surfaces.

We make the suggestion to architects and others engaged in the planning and construction of housing schemes that the provision of reinforced concrete roads is a most desirable adjunct to their plans and one which will provide every satisfaction to themselves and those whose interests they have laid themselves out to serve.—J. F. B. (Reproduced, by permission, from the Sixth Issue of "Floor Slab Reinforcement," published by the British Reinforced Concrete Engineering Co., Ltd., 1, Dickin-son Street, Manchester.)

Brazilian Commercial Delegates' Visit to the General Electric Co., Ltd.

The members of the Brazilian Commercial Delegation at present visiting England under the guidance of the Federation of British Industries were, on June 26, the guests of Mr. Hugo Hirst, the chairman of the General Electric Co., Ltd. A visit to the extensive Osram Lamp Works of the company at Hammersmith was followed by a luncheon at Claridge's Hotel, at which Mr. Hugo Hirst presided. The chairman, having proposed the toasts of "The King" and "The President of the Brazilian Republic," Mr. Nugent (of the Federation of British Industries), proposed "The Health of Mr. Hugo Hirst."

The Chairman, replying, took the opportunity to express his pleasure at being one of the first to entertain the Brazilian delegates, which he did in his capacity as a member of the Federation of British Industries, and also in his capacity as chairman of the General Electric Company, Ltd. At the Osram Works they had seen two sections, the lamp section and the valve section. Owing to the war, the lamp section had been unable to expand, as all the skill they had employed to improve lamps had

been devoted, owing to the conditions of the war, to the valve section. Their works had been the means of communication between the Allied Forces, where, otherwise, communication would not have been possible. Those valves had been the means of killing the danger of submarine warfare. They would now be the means of guiding aeroplanes or ships at night, or in a fog, to safe landing places, and they were the nucleus of developments which too little time had elapsed to allow them to grasp, and were the outcome of what they had been doing during the war. He had prepared a little brochure describing all their works, which it had been his pleasure to present to the delegates. Had it been possible, he would have welcomed them to all the various G.E.C. factories, to the Fraser and Chalmers works at Erith, where the company manufacture their mining machinery, coal-handling plant, turbines, &c., which ought to be of great interest to them; to their telephone works at Manchester, an industry which had been too long dependent on other countries, and in which tremendous progress could be shown; to their extensive and modern cable-making factory at Southampton; and to their engineering works at Witton, near Birmingham. He would not enumerate them all, but he did want to say that the General Electric Co., Ltd., were manufacturing in large quantities everything connected with electrical work, and were in a position to carry out contracts for anything electrical, from the smallest bell-ringer to a 20,000 h.p. plant in any part of the world. The company felt it to be their duty to take part in the struggle for British supremacy in electrical engineering, which had been going too slowly. What to say to the Brazilian delegates especially he did not know. He had never been to Brazil, but when a young man he had been in Manchester, and he remembered that Dom Pedro, the last Emperor of Brazil, on being shown a very big machine at Manchester, asked, "How many revolutions does this machine make?" and when told thirty a minute, replied, "Nearly as many as Brazil." Five years of war had kept all countries apart, and made it necessary to rediscover the position afresh.

Dr. Souza Bandeira, replying, said that he was happy to have the opportunity of thanking the General Electric Co., Ltd., on behalf of the Brazilian delegates, for the kindness with which they had been received at the Osram Works, and he hoped the commercial interchange between Great Britain and Brazil would be largely improved as the result of that visit. The delegation would propose the formation of an Anglo-Brazilian chamber of industry and commerce. They were highly delighted with the visit they had paid to the works, and hoped Brazil would afford

opportunities for exporting British manufactures.

Other members of the Brazilian Delegation having spoken, Major-General the Hon. Sir Newton J. Moore, K.C., M.G., M.P., said he had been asked by the chairman to express, on behalf of his colleagues and the other directors, their appreciation of the sentiments expressed by their guests. It had been a great pleasure to the General Electric Company, Ltd., to have the opportunity of enabling their distinguished guests to see something of British industry, especially as far as their company was concerned. Their ambition was to take the place of the Germans. He thought that under the capable direction of Mr. Hirst, whose qualifications for leadership of such an organisation were recognised by the business community, not only in this country, but all others, assisted by the loyal co-operation of his colleagues, the managers and workmen, their aspirations might be realised. One of the principles recognised by them was that without the efficient and loyal co-operation of their workpeople success could not be achieved, and it was part of their policy to secure that loyal co-operation. It was very gratifying to learn that it was proposed to establish an Anglo-Brazilian chamber of industry and commerce, and he felt sure he was voicing the view of his colleagues when he said that any assistance they could give by way of encouragement would be very willingly given.

Addition to a Factory.

With the withdrawal of the Government restrictions regarding the photographing of factories engaged on war contracts, it is possible to publish for the first time illustrations of some of the very up-to-date factories constructed during the war to cope with the demand for accelerated output of munitions.

One occasionally hears doubts expressed that alterations and additions to an existing building can be carried out in reinforced concrete with the same ease and as little interference with the continued activity of existing workshops as happens when the additions are executed in structural steel.

In the case under notice and illustrated here, the firm of Components, Ltd., Selly Oak, Birmingham, were engaged on very important war contracts of such magnitude that immediate and extensive additions to their factory became absolutely necessary. It was equally imperative that, during the additions, work be continued uninterruptedly in their existing one-storey north-light workshops, on the site of which the new building had to be erected.

The problem thus presented to the firm's architect was tackled boldly by deciding to make the ground floor, that is, the first

storey, of such a height that the first floor should be constructed above the roof-top level of the existing buildings. Holes were cut in the existing roofs for the new columns, and the column casings and column foundations were therefore the trifling and only interference that occurred regarding the maintenance of working conditions in the existing workshops. The whole of the construction of the new factory was thus carried on outside and above the occupied building, with great satisfaction to all concerned.

The new factory being, as a consequence, of generous height from floor to floor, there was more than ample head-room and the architect further decided that fairly deep beams would be admissible, thus allowing a wider spacing of columns than for economic reasons is customary. This has resulted in splendid areas of unimpeded floor space, the beam span in some cases being as much as 34 ft.

The reinforced concrete was designed on the Kahn system by the Trussed Concrete Steel Co., Ltd., to carry super-imposed loads as follows: First floor, 2 cwt. per foot superficial, and second floor, $1\frac{1}{2}$ cwt. per foot superficial. These loads were considerably exceeded, as usual, within a few weeks of the completion of the building, and in addition a fully equipped carpenters' shop was placed on the roof, all without any noticeable deflection taking place and without a sign of a crack anywhere.

The architect was Mr. James R. Shaw and the contractors Messrs. R. Fenwick, Ltd., both of Birmingham.

GEORGE E. TURNER.

Hot-water Supply Simplified and Improved.

A dominant and incessant note of the endless discussion of the housing problem is the insistence on adequate and convenient hot-water supply. Health and cleanliness, no less than comfort, demand that, in the houses of the workers, as well as in those of the comparatively well-to-do, the means of obtaining hot water at short notice and in sufficient quantity shall be provided.

The Falkirk Iron Co., of Craven House, 119, 121, and 123, Kingsway, London, W.C.2, have put forward an invention which, in our opinion, meets admirably the demand for a constant supply of hot water. The apparatus, which has been carefully examined by representatives of this journal, resembles at first sight an ordinary washing boiler or washing copper, and, as a matter of fact, will yield in this capacity an efficiency of service of which the ordinary "copper" or furnace-pan is quite incapable. The Falkirk Iron Co.'s apparatus, however, is in reality a twin-boiler, comprising not merely an ordinary receptacle for water, but, surrounding this, an outer casing, or water jacket,



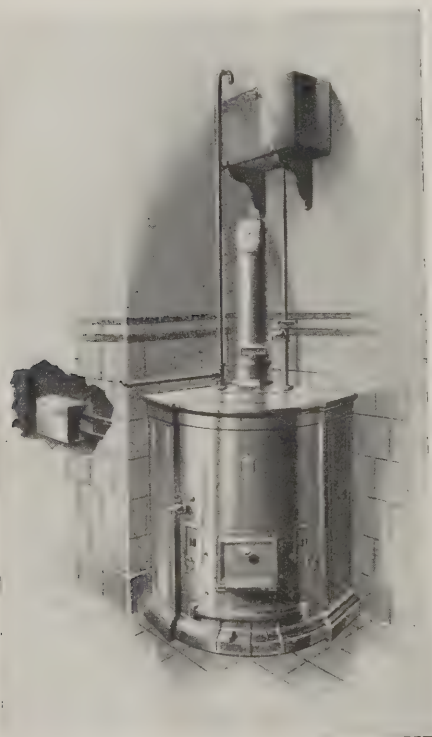
FACTORY OF MESSRS. COMPONENTS, LTD., SELLY OAK, BIRMINGHAM

jacket and pan being independent of each other. This outer casing is in effect a circulating cylinder, containing within its outer and inner walls, which are four inches apart, hot water which can at any time be drawn off to feed a bath or for use at the sink, or to meet other domestic needs.

The twin boiler is designed to stand in the ordinary scullery, and is connected by two pipes (flow and return) to a high pressure boiler at the back of the kitchen range or living-room grate, whence the necessary heat is derived.

Thus the range, whilst in use for cooking, heating, or other household purposes, is at the same time providing a constant supply of hot water.

Moreover, this hot water, whilst standing in the cylindrical casing, heats by radiation the water in the central boiler—the furnace-pan or “copper”—which has a capacity of eight gallons. The capacity of the outer casing is ten gallons; and when it is emptied it fills automatically from cistern placed at a sufficient height to secure a proper “head” or fall.



A steam escape is fitted in the rim of the boiler, together with a draw-off tap.

A valuable advantage of the twin boiler is that it is not wholly dependent on the range boiler, but can be worked from its own fire—that is, from the familiar “copper” grate; or, if desired, gas can be easily adopted as the heating medium. Thus, when the fire in the kitchen range is not required, the twin boiler is not thrown out of action, whilst, should both fires be in commission at the same time, an unlimited supply of hot water is quickly obtained.

Tests recently made proved that, in ordinary working, the twin system provides sufficient hot water for a bath every thirty minutes.

As seen by our representatives at the Falkirk Iron Co's showrooms in Kingsway, the apparatus was working in connection with a “Compax” combination grate, one of the firm's specialities. This grate is a convertible one, very little effort being required to change it from an ordinary fireplace into an efficient cooking range. The oven itself draws down over the fire—a much more effective arrangement, it is claimed, than the ordinary practice of placing the oven at the side of the fire.

It has been proved that the “Compax” range, whilst providing a continuous supply of hot water, maintains a baking temperature of 370 deg. Fahr. in the oven, while the “hotplate” boils from four to five saucepans of a size meeting the requirements of a family of six or seven persons.

The fuel consumption in performing these services averaged 5 lb. per hour, but when the grate was used as an open fire, the consumption was only 2 lb.

As previously stated, the twin system is filled from a cold water cistern, which holds ten gallons, and is fitted with a ball valve. It is shaped either to fit into the angle between two walls, or to stand against a straight wall, and, being self-setting, it can be installed by any contractor at a low cost, as no special building or pipe work is required.

Although at the company's showrooms the twin boiler is exhibited in connection with the “Compax” grate, the latter is by no means essential to the system, which will work with any efficient type of kitchen range or living-room grate with an H.P. boiler.

Neither is it necessary for the bath to be on the ground floor, for the system per-

mits of the bath's being placed on a higher floor when desired by simply raising the supply cistern to the required height.

Of course, the twin boiler system is not restricted to any particular type of house, but can be fitted into any existing structure, or built in with a new erection. It is no doubt eminently suitable for meeting the demand for hot water and bath service in working-class dwellings, and we can well suppose that it would be a great boon in a bungalow or week-end cottage.

Any architect or building expert who wishes to inspect the apparatus will be cordially welcomed at the showrooms in Kingsway.

Fittings for Electric Lighting.

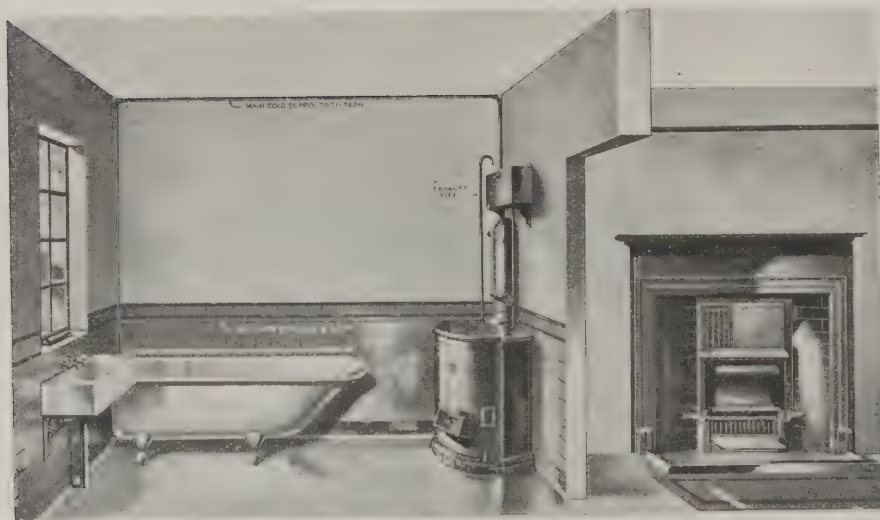
A room which is complete with all well-designed accessories of illumination, fittings, grates, overmantels, wall-covering, can to a large extent afford to dispense with



GEORGIAN PERIOD CENTRE LIGHT.

some of the usual furniture, much of which is often superfluous to the requirements of the inhabitants; and the only justification for its presence is that it detracts from deficiencies or defects in the room's accoutrements.

Birmingham has for many years been the traditional centre home in England for metal work; a tradition for whose survival there is ample justification. Messrs. Ingram, Kemp, Ltd., of New Town Row, Birmingham (London showrooms, 26-7 Hatton Garden, E.C.1.), have published a beautifully designed catalogue containing illustrations of their electric light and gas fittings, one of which is here reproduced. These fittings, which are executed with various finishes, such as steel, bronze, Florentine bronze, lacquered gilt, ormolu, oxydised copper, or silver, etc., are for the most part founded on sound scholarly examples, and indicate none of that restless tendency towards originality, which, unless balanced by a thorough knowledge, leads to the disastrous results of which, unfortunately, there are already too many examples. This catalogue might well be consulted by all whose interest in building extends beyond bricks and mortar, and strays from the simple cottage plan.



FALKIRK IRON CO.'S NEW HEATING APPARATUS.

Laing's Ferro-Brick Fireproof Floor.
The Ferro-Brick Fireproof Floor, cor

The Architects' Journal
Wednesday, July 16, 1919

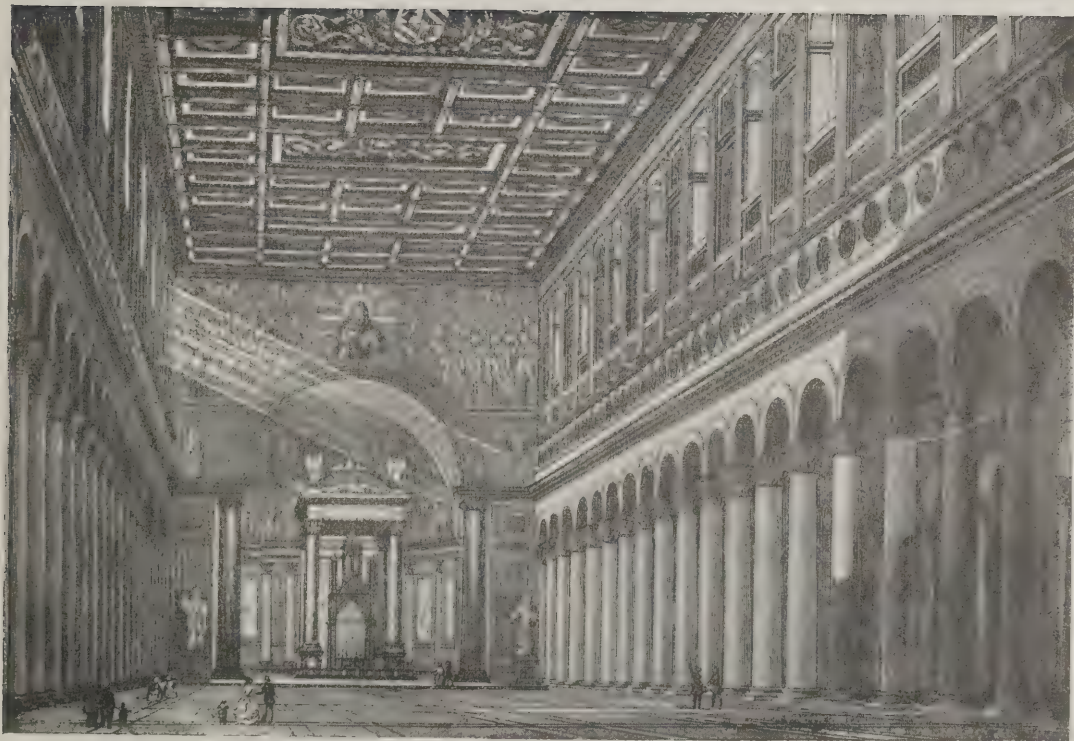
THE

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Volume L. No. 1280

ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



BASILICA OF ST. PAUL, ROME.



MONUMENT TO COUNT UGO, AT THE BADIA, FLORENCE.

BY MINA DA FIESOLE (1481).

THE ARCHITECTS' JOURNAL

Joint Editors: A. E. RICHARDSON, F.R.I.B.A., and J. FINDLAY McRAE.

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Towards Fraternal Unity

ARE we gradually getting back to the gild system? A good case could be made out for the affirmative proposition. Setting aside deliberate aim and direct advocacy, there are many signs of a sort of unconscious gravitation towards the unity that was the central essential principle of the gild. Men everywhere seem impelled as by an unseen and unfelt force along paths that, if they continue in the direction now indicated, must ultimately converge on federation, if, indeed, they do not quite reach the actual coalescence that made the gilds so formidable in attack and defence. That it made men also greatly more proficient in the arts and crafts than they could have become if the several classes of workers had remained segregated is easy of belief; but to suppose—like that charming writer, the late Mr. March Phillips, for instance—that this form of collectivism strengthened individuality may be true, but is rather of the nature of paradox.

Whether combination tends to strengthen individuality or whether it does not rather tend to destroy it, is certainly debatable—by callow young men in the common-room: the discretion that comes with years will avoid such indeterminate issues. This much is of ascertainment: that it is natural for human beings to combine, whether for good or for evil—we are not concerned to deny that the effect is as much and as often the one as the other—and gregariousness sharpens their wits, whatever else it may do. By exchanging opinions and experiences, they grow wary in argument and cunning in craft. As our rother artist of the pavement reminds us in his most pithy script, "Many can help one, though one cannot help many"; which epigrammatic generalisation, like most others, breaks down hopelessly under cross-examination. Every architect whose designs have set a gang of men to work knows one-half of this guttersnipe of a proverb for a flat fallacy; and as he sees his design spoiled or his work intolerably delayed, he gives but a grudging assent to the other half. If many can help one, is it sufficiently apparent that they can also hinder him in the most exasperating fashion, whether by stupid perversion of his devices, or by a wilful and wicked restriction of output that sends up the cost to his (possibly lasting) discredit with his client, who, as likely as not, may happen to be one of those mean-minded and suspicious persons who are convinced that every halfpenny they pay in excess of the estimate is extorted from them by fraudulent collusion of their hiring the architect with their arch-enemies the contractor and his horde of workers or sub-contractors. To a client suffering from this disease the clerk of the works is superfluous—an idle fellow who at his best saves a lazy architect the fatigue of loafing about the job to make sure that labour is not overworking itself. At his worst, the unfortunate clerk is suspected of conspiring with that other superlative of naughtiness, the builder's foreman, to rob the helpless client, who would like to get rid of both clerk and foreman, and has even tried also—with but indiffe-

rent success—the elimination of both architect and contractor. Much do we suffer from the general ignorance.

Granted this is an exaggerated picture, even so is there not a great deal too much truth in it? Has there not been a spirit of malignity or of malice abroad, making sharp divisions between those who would find a greater mutual advantage in agreement? A "greater," we say, because—however reluctant one may be to make the admission—there is certainly some advantage in opposition, contention, competition, antagonism even. But while strife is a condition of strength, bringing into play faculties that would otherwise remain unexercised and therefore undeveloped, the natural instinct that prompts the struggle is easily perverted to base uses, and it is against these that we have to be incessantly watchful, lest they betray us. Instances of this abuse could be easily multiplied. Does not Parliament waste far more energy on vain vapourings, on wrangling and jangling, than it expends on effectual work? Ask that question of any honest legislator, and he will say without a moment's hesitation, "The answer is in the affirmative. The legislative engine wants tuning-up; its horse-power, like its horse-sense, is merely nominal."

But everywhere the margin for discount has been made over-broad, because the reason for economic working and net results was not apparent. Now that the necessity for the utmost productive economy is becoming painfully manifest, we can no longer afford to waste time, or thought, or action on such frivolous pursuits as wrangling and "argufying"—or, as in some places they call it, "arglebargling": that is to say, opposing each other, either singly or by sections, merely for the pleasure of the exercise, or of enjoying a barren victory and crowing over a prostrate adversary. The war should have killed all that nonsense, giving us quite all the strife and all the victory we can digest for a generation to come.

That is why the gild spirit is now reasserting itself with redoubled force. That is why there is so much talk—and more than talk—of Whitley Councils, Workshop Committees, Builders' Parliaments. They will not do all, nor a fraction of all, that the sanguine of temperament expect of them; but they will alter our course and bring us back into the fairway from which we had erred and strayed, though it is too much to expect that they can steer us into the haven where we would be. They will start a new era in social and industrial history if they can succeed in allaying Labour unrest. Professional unrest, which is a still more subtle disease, with symptoms more obscure, may be therefore less amenable to treatment. Professional men, being debarred from the relief of rebelling against their paymasters, are therefore the more prone to internal dissensions, whence come fusion into cliques and fission into rival organisations; Registrationists coming out from those who are apathetic towards this reform; Associates making for a sort of rave of Adullam, whence

they may gird at the Fellows nodding sagely but somnolently in their curule chairs; assistants combining to "protect themselves" against principals; provincial associations looking on Conduit Street with a jealous eye; members blackballing wholesale the candidates for election; educationists playing the ancient and strenuous game of Teacher versus Examiner.

These notorious dissensions among architects, in which "we lay waste our power," and fritter away our influence and opportunities, could be supplemented by parallel discontents among the contractors and their men; between the architect and the contractor; between the contractor and the sub-contractor, and so on. So long as these rivalries are conducted without ill-feeling, they may be regarded as symptomatic of healthy vigour; but in so far as they run to excess they waste too much vital tissue. Energy can no longer be devoted to the luxury of bickering; we have more profitable uses for it. How to conserve this energy—how to assuage Professional unrest—is the great task that lies before the new President of the R.I.B.A. and his Council. Their work can be made comparatively simple if they approach it with the inflexible determination to brush aside all trivial issues and all paltry details, and to press onward in the grand manner towards the grand mark of unity of the profession and solidarity of the industry—"peace within our borders."

Towards this consummation the first step is obviously to get together the various elements that are to be conciliated. Builders' Parliaments, Consultative Boards, and the like, are very well in their way, but to the extent to which they are merely sectional they will be always ineffectual towards the solidarity that is the one great immediate need of the industry if its mutual antagonisms are to be converted to united forces, all working together along the path of progress.

We want at the head of the building industry a kind of œcumenical council, or Ministry of All the Talents, whose zeal shall be according to comprehensive know-

ledge. This Consultative Council for the Building Industry shall be purely advisory, and shall by no means interfere with the autonomy of the various organisations that shall elect it; but because it is elective and representative, the results of its deliberations shall carry great weight; for its strict impartiality must follow inevitably from its composition. There will be in it no more architects than contractors, and no more contractors than artisans, always supposing that the principle of proportional representation cannot be adopted. Nor shall the builders' merchants be overlooked, although, strictly speaking, they are not an integral part of the industry. Their counsels, however, should be very valuable. They can speak with authority on matters on which the synthetic and authentic builders are necessarily less well informed. That this vision of an œcumenical council for the building industry—or, to give it a less grandiose name, this clearing-house for the rational adjustment of differences or difficulties—is not altogether Utopian is evident from the spirit of Whitleyism which is now so subtly and so widely diffused.

Among the many attempts to embody that spirit, we are glad to notice the very promising scheme that is now in contemplation by the Architectural Association. No doubt the R.I.B.A. will watch with paternal interest the progress of the building exchange club, or whatever it is to be, that is intended to afford a means by which all sorts and conditions of builders shall meet on common ground for the discussion of common interests and for the enjoyment of each other's society. This would seem to be a development of the Rotary Club idea; and it should meet with even more than the extraordinarily full measure of success that the Rotary Club, mainly by its free-and-easy constitution, has achieved. So shall we get a great stride forward in the direction of unity and harmony, progress and prosperity for the building industry. We shall revert to the gild system—with many differences, but with the strongest possible re-assertion of its cardinal principle of fraternal unity.

J. F. MCR.

Notes and Comments

Black Diamonds.

THE announcement made in the House of Commons last Wednesday by Sir Auckland Geddes on behalf of the Government that the price of coal was to be raised by six shillings a ton has staggered industry and commerce. Whether or not the announcement was, as it has been called, "a political dodge," it is certain to shake confidence in the ability of the Government to control industry and commerce, which it has attacked at its root. Clearly, if the Government can manage no better than this, it must be forced to relinquish entirely its stranglehold on business. Rightly or wrongly, the public feel that the most vital interests of the community are being sacrificed to mere electioneering expedients—"trickery" is the word that suggests itself, but this is not a political organ. If, indeed, this announcement is merely a sinister piece of electioneering bluff, it is most stupidly ill-timed, and must very soon recoil on its perpetrators. Frankly, we cannot believe that this enormous increase in the price of coal is warranted by any conditions arising out of the Coal Commission inquiry and report, and we trust that the entire business and commercial community will make immediate and strict investigation into the real meaning of it. For it sets up such a long train of evils, and causes such appalling damage, direct and indirect, in all directions, that it simply cannot be tolerated for any less reason than absolute inevitability. If, however, it should turn out to be beyond dispute unavoidable, then immediate and drastic steps must be taken to ensure the strictest economy in the use of coal. Possibly many of the applications that are flagrantly wasteful may be entirely prohibited, and there is just a possibility that ere long its domestic consumption will be confined to the gaseous form. The "open grate" seems doomed. Gas engines, too, will, in builders' yards and elsewhere, supersede the boiler power that depends on such huge consumption of coal; but these are inapplicable to such operations as brick and tile burning, glass-making, and the manufacture of glazed sanitary ware, and these articles, with many others in which builders are interested, are sure to go up in price. We are writing in advance of the

debate on the subject in the House of Commons, the result of which will probably either remove the menace or turn out the Government.

London Housing Schemes.

It is announced that the London County Council's housing proposals provide for an expenditure of thirty millions sterling. It will frighten the London ratepayer, who is notoriously timid in matters of expenditure, although the fighting men he sends to the war are the bravest of the brave. He must not forget that it is for these fine fellows—"London's Own," as he is proud to call them—that the houses are wanted. He will then not begrudge the deficit of £48 a year per cottage that is estimated for the first ten thousand dwellings which are to be built during the next two years. When this first instalment has been completed, the Council will start another for 19,000 cottages, on which the loss is estimated at £33 a year per cottage; while the ultimate total annual housing deficit is estimated at rather more than a million a year. It is welcome news to hear also that the Corporation of the City of London has a huge building scheme in hand, and has thus far acknowledged its moral obligation to do something towards housing some of the great multitude of workers who stream into the city in the morning and back into the dingy suburbs in the evening. It is in the suburbs, or in one of them, that the City's great project is to materialise, and we trust that the rivalry between the two London authorities will be all to the good of housing.

The Lords and the Housing Bill.

Amendments made in the House of Lords seldom strengthen a Bill, except as pruning may strengthen a plant. All that the Lords did to the Housing and Town-Planning Bill on July 1 when it passed through Committee, was to make two rather important deletions. Clause 7 empowers a local authority to call upon an owner to maintain a house in a condition fit for habitation, and Lord Bledisloe moved an amendment giving the owner the option of closing the house, as the necessary repairs might involve the owner in a greater expenditure than the house was worth. Viscount Peel thought it would be

terous in the present great shortage of houses to leave
 lute freedom to the owner to shut up a house for any
 on; but the Lord Chancellor accepted the amendment,
 ng, however, that on the Report Stage he would move the
 ion of words as a safeguard against any improper closing
 uses. It is almost incredible that such revolutionary utter-
 s as these should have been heard with patience in the
 se of Lords. What can have become of the "sacred rights
 roperty" if a man may not "do what he likes with his
 "? Time was when the most timid whisper of a sugges-
 that a house owner might not let his property run to ruin,
 ight not close his house at his own sweet will would have
 ed as much consternation in the "House of Landlords"
 as a quantity in a rag from Horace; but now it is actually
 ed by a noble lord that an owner must not be allowed
 ute freedom "to shut up a house for any reason." This,
 ver, was too preposterous a revulsion from traditional
 ment, and the owner is to have the option of closing the
 if he is unable or unwilling to repair it. One feels sus-
 as that he who takes the option will be in no small danger
 ing promptly thereafter commanded to pull the house
 : "Why cumbereth it the ground?" Some of the noble
 who took part in this discussion must have been reminded
 of the magnanimous option proffered in the once popular
 against their own House: "Mend it or end it."

A Blow to Town-Planners.

Another important omission was that of the clause
 arily imposing on local authorities the duty of preparing
 planning schemes. The deletion was moved by Lord
 am, whose rapid descent to Avernus is utterly perplexing
 very painful to those who remember—and they would have
 dlingly short memories if they did not—the splendid work
 for national housing before he entered the House of Lords
 became chairman of the London County Council. The only
 for him is that either step is of proved efficacy in con-
 g a revolutionary to a reactionary. In consenting to the
 ion, the Lord Chancellor could hardly have had a clear
 of the consequences, although his words made it certain
 he saw the folly of letting local authorities put up
 ere they liked the houses they were compelled to build.

"It was obvious," he said, "that there should be some direc-
 tion in relation to the very large number of new houses that
 were to be constructed, in order to safeguard the beauty of the
 countryside. In some districts the whole character of a town
 would be altered for a long time to come." A rather round-
 about confession that housing schemes should be arranged on
 town-planning principles. He would not, however, agree to
 the omission of the succeeding clause, which leaves it to the
 Local Government Board—surely he should have said the
 Ministry of Health—to require schemes to be submitted where
 they are satisfied such schemes should be prepared. Town-
 planners will be up in arms against this ruthless sacrifice of an
 important principle, and we hope to see them successfully
 oppose this serious incursion of crass vandalism. It has now
 become a nice question whether the malignancy of Lord
 Downham has not cancelled out the beneficence of Mr. Hayes
 Fisher.

Housing Delays.

In Birmingham, as elsewhere, there has been a bitter outcry
 against delay in getting to work on housing. Mr. Henry E.
 Farmer, Housing Commissioner for the Birmingham and
 Midland area, in explaining the position, has given some ex-
 cellent advice which has a general rather than a merely local
 application. He expresses the opinion that time is being lost
 in preparing in detail lay-out schemes for entire large sites
 instead of concentrating on a detail lay-out for a section that
 could be put in hand at once—the detail depending, of course,
 upon a general lay-out of which a mere outline would suffice.
 Time is being lost, too, according to Mr. Farmer, through
 failure to press through all the stages to the point of obtain-
 ing tenders at once for a limited number of houses. He adds
 that the whole available supply of building labour is being
 rapidly absorbed, mainly in tackling the vast accumulation of
 repair work, with orders for which builders are being over-
 whelmed. His advice is, however, that a beginning could be
 made by pressing on with small schemes or with small sections
 of large schemes. Naturally, he is silent about the chief cause
 of delay; that is, the reluctance of the Government to release
 its throttling hold of the industry. We have consistently held
 that sudden release of Government control would be dangerous;
 but of course we never meant that therefore this control should
 be protracted beyond all reason, and we are sincere in the belief
 that it would now be not only safe but highly advantageous for
 the Government to abandon all restrictions on labour and
 materials, even if this course meant letting housing take its
 chance against other classes of building that seem to us to be
 at least equally urgent.

The "Architectural Review."

On the topical subject of war memorials Mr. Walter H.
 Godfrey, F.S.A., is contributing to the "Architectural Review"
 an interesting series of articles, the first of which (dealing with
 wall tablets) appears in the July number, just issued. Mr.
 Godfrey urges, in effect, that in meeting the universal demand
 for war memorials we should be properly observant of the
 appropriate forms that have come down to us from the sixteenth,
 seventeenth, and eighteenth centuries. The walls of nearly all
 our old cathedrals and churches hold an abundant wealth of
 material that is freely at the disposal of the architect, and to
 ignore it would be to cut ourselves off from a valuable source of
 inspiration. There seems to have been no limit to the resource-
 fulness of the old craftsmen, who produced their commemora-
 tive tablets in astonishing variety—both of form and detail—
 adorning them with beautiful lettering on the Roman model.
 Mr. Godfrey's article is accompanied by reproductions of some
 perfectly delightful examples of different periods, from all parts
 of the country, one of which is given with this note. It is not,
 of course, suggested that any of these old forms, beautiful as
 they are, should be mechanically copied; but it is rightly main-
 tained that they are very valuable in suggestion and provide an
 admirable basis of design. Among the other features of the
 current issue of the "Review" is an extremely interesting
 article on Baalbek, by Mr. G. Berkeley Wills, A.R.I.B.A., who,
 while serving with the Army in Palestine, took occasion to visit
 this great and perhaps insufficiently appreciated ruin of a Roman
 provincial city. His careful account, accompanied as it is by
 a dozen or more photographic views, will be studied with
 interest by archæologist and architect alike. The concluding
 part is given of Mr. Nathaniel Lloyd's article on that fine
 Scottish Baronial mansion, "Earlshall," Leuchars, Fife
 (restored some time ago by Sir Robert Lorimer), and a modern
 country house, "Hilltop," Sunningdale, designed in the
 Georgian manner by Messrs. Richardson and Gill, F.F.R.I.B.A.,
 is fully illustrated and described. Other contributions include
 an excellent notice of pictures at the Royal Academy and a
 controversial article on Town Planning by Mr. C. F. A.
 Voysey, who tilts against the modern movement with
 customary energy and originality.



OUTSIDE PETWORTH CHURCH, SUSSEX.

(From the "Architectural Review.")

War Memorials Exhibition

ONE of the first impressions obtained upon visiting the War Memorials Exhibition, which has been organised by the directors of the Victoria and Albert Museum in co-operation with the Academy War Memorials Committee, is the great variety of form which these memorials may take, and yet retain their suitability. The exhibits range over a large field, extending from such simple objects as a wall-tablet, or memorial cross, to a stained glass window, a piece of tapestry, an altar vessel, illuminated missal, or a large architectural composition. Of the latter, however, there are very few, and fortunately there happen to be none of those vast impracticable schemes which would have been so utterly misplaced amongst a collection organised to give aid to those contemplating actual undertakings.

The exhibition is divided into two parts: a Retrospective and a Modern section, the former consisting merely of such exhibits, gathered together from various parts of the museum, as are thought likely to be of assistance in furnishing ideas. With great appropriateness, a model of the Wellington Memorial by Alfred Stevens stands near the entrance of the modern section: the spirit of the past presiding over the efforts of the present.

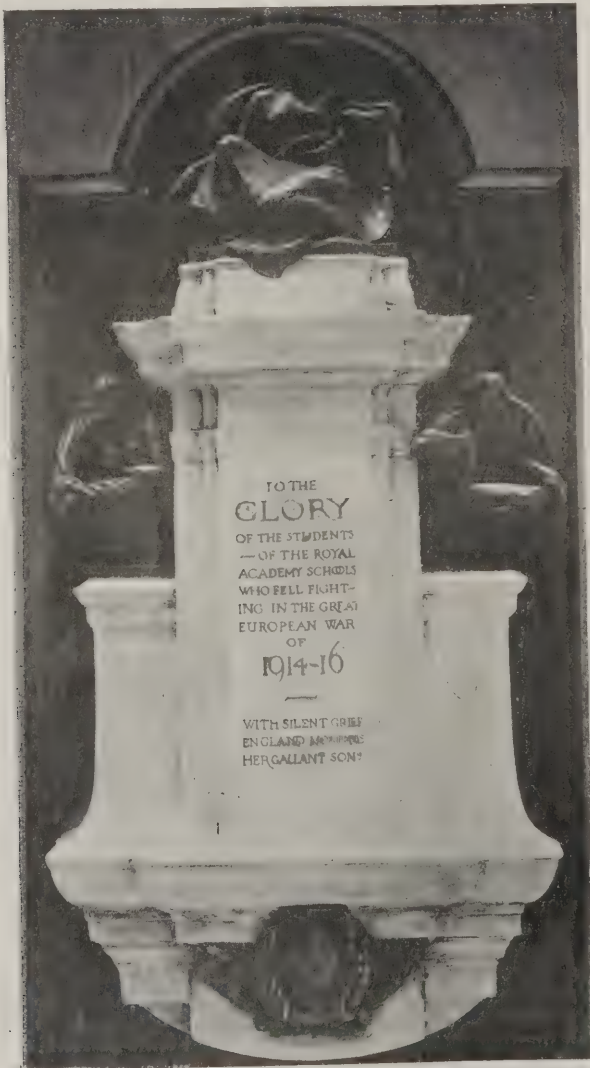
The purely architectural exhibits are neither representative of the best that can be produced nor of what has already been executed. This is to be greatly deplored, and it furnishes but another example of the disastrous policy of exaggerated professional modesty and lamentable professional apathy.

It is inevitable that lettering assumes a position of great importance in connection with memorials, and it is a subject which allows of no graceless efforts towards originality, for like the words which it forms, it must be dignified and scholarly, and in such guise it cannot fail to make an appeal

to those who are in any way susceptible to beauty. Lettering, besides, has a rare decorative quality whose value, it would seem, is once more becoming recognised. The exhibition contains many examples of beautiful lettering, among them being four designs for memorial brasses by Mr. P. A. Tiff (905, 906, 908, and 909), executed by Emery Walker, Ltd., and a design for a memorial tablet (703) and an oval plaque (707) both by Mr. C. A. Llewellyn Roberts, and exhibited by the Birmingham Guild, Ltd., merit particular attention. Too many artists, however, occasionally fail to realise the value of good lettering is evident from two designs for a Roll of Honour (935 and 937) by Mr. Frank Brangwyn, R.A. The bold figures are full of that tender dignity which Mr. Brangwyn imparts with such surety and sympathy in treating so tragic a theme, but the effect of the whole design is impaired by the ill-proportioned lettering which surmounts it.

Among the many wall tablets, a plaster model of a cartouche (822) designed by Mr. Ambrose Poynter and Mr. George H. Denyon, and executed by Messrs. H. H. Martyn and Co., Ltd. is to be particularly commended; it possesses grace and freedom of curve unspoiled by over-elaboration or useless embellishment. A mural tablet (839) designed by Mr. Lindsey Clarke, and executed by Messrs. H. H. Martyn and Co., Ltd., is an admirable example of a happy combination of originality tempered by scholarship and executed with restraint. Mr. A. F. Hardiman, R.B.S., shows a sketch model for a mural tablet (852) erected to the memory of the Royal Academy students who have fallen in the war. The influence of Alfred Stevens is very marked in this well-balanced design particularly in the grouping of the figures.

Of the larger architectural schemes, the finest is Mr. Herbert Baker's magnificent Rhodes Memorial (825), illustrated by



DESIGNED BY ALFRED F. HARDIMAN, R.B.S.



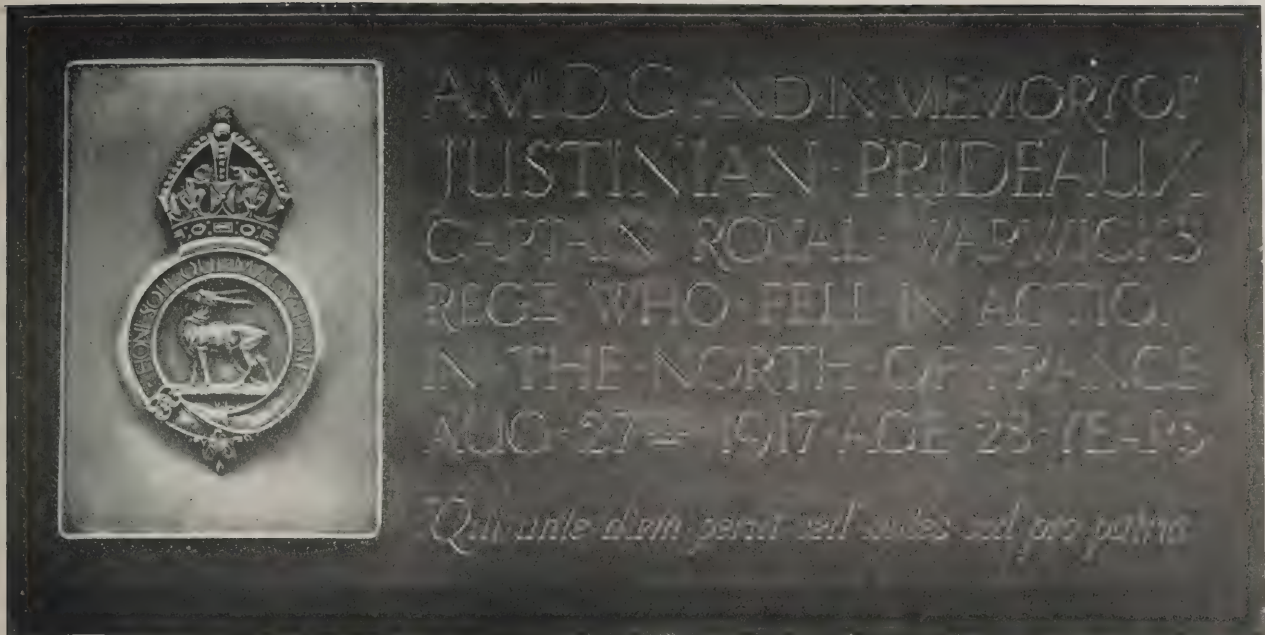
DESIGNED BY R. LINDSEY CLARKE.

MURAL TABLETS IN THE WAR MEMORIALS EXHIBITION, VICTORIA AND ALBERT MUSEUM.



MEMORIAL TO THE LATE CAPTAIN M. G. DONAHOO, M.C. REPLICA OF PANEL PLACED IN THE LADY CHAPEL OF WONERSH CHURCH, SURREY. DESIGNED BY MISS F. B. BURLISON.

(War Memorials Exhibition, Victoria and Albert Museum.)



DESIGN BY C. A. LLEWELLYN ROBERTS.

WAR MEMORIALS EXHIBITION, VICTORIA AND ALBERT MUSEUM.

od water-colour drawing by Mr. E. Walcot. Indeed, this exhibit is one of the most valuable in the gallery, for it shows the importance of imagination in the selection of the site and the conception of the buildings in relation to it, resulting in an effect of quiet grandeur, which should always be a main characteristic of such monuments. Mr. W. J. Palmer Jones shows a design for a memorial tower (874) which seems to us to be somewhat lacking in the reverence proper to the subject.

Of the non-architectural exhibits attention must be drawn to three beautiful chalices (1002, 1003, 1004), designed and executed by J. Paul Cooper; to Professor Gerald Moira's decorative wall painting (776); to an exquisite little panel in

the early Florentine manner (919) by Miss F. B. Burlison, which we reproduce as a plate on page 79; and finally to a design for a bronze frame to hold a war decoration (732) designed by Mr. A. E. Harvey.

In connection with the exhibition an inquiry bureau has been arranged, where advice will be given to those desiring information with regard to war memorials of any description, and it is to be hoped that intending patrons will avail themselves of its services, and by so doing be diverted from embarking upon schemes which would neither in after years do adequate honour to the dead to cherish whose memory they were created, nor to the age responsible for their production. H. J. B.

Architectural Causerie

It is a great pleasure to travel at will through our own country—a pleasure akin in many ways to visiting the apartments of a fine country mansion. The railway permits of a backyard view of everything, an advantage dispelling the unbridled passion of covetousness. Most of us are familiar with the backs of town as viewed from the carriage window, but for real delight give me the wheels of a push-cycle, or that ubiquitous machine (developed from the hobby-horse) the lineal descendant of the Tantivy trot. By train, bicycle, or hard walking we keep in touch with the countryside. With a person's road-book in hand we can weave illusions incompatible with modern bustle, and disdain conceits of so-called progress. All England is open to us. We can read towns and villages with an inordinate appetite; sometimes in the mood of George Borrow, enabling us to consult with stonebreakers and chance craftsmen and gather many secrets denied to the road books.

* * * *

I have taken inspiration for my causerie this week from a recent journey to the West of England which encouraged much reflection; for it appeared, from Paddington to Reading, as if London were indeed going out of town with a vengeance. When the Great Western line is electrified, the passengers of the future will pass at one hundred miles an hour between the walls of innumerable factories, some of which were built for the making of munitions during the Great War. There will be well-designed communal centres adjacent to these factories. Trees will be left standing to screen the white and red roofs, and every municipal authority will possess a copy of the map prepared by the London Society controlling the new order of things. Referring to the munition buildings erected during the past years of war and depression, their possible adaptation to the new needs of the era of commercial prosperity leads me to mention some eighteenth-century munition centres formerly owned by private enterprise, but controlled by the Government during the struggle with Napoleon. More than a hundred miles down the Great Western line, far removed

from the temporary buildings of Slough, Swindon, and Bristol—to be precise, about the centre of Dartmoor—stand the disused gunpowder mills of Postbridge, derelict these many years, but sufficiently busy in former days, as can be judged from the group of workers' cottages near by, now occupied by agricultural labourers.

* * * *

From Dartmoor I will lead my readers to Exeter, and thence by road past the Artillery Barracks, with good round shot piled ornamentally on the gate piers, to the ancient seaport of Topsham, five miles from the walls of the city, my object being to investigate an old tale concerning the building of frigates to fight the French. With the Salutation Inn as headquarters, we start inquiries, and soon find traces of former ship-building, for the ornaments of doorposts and consoles hereabouts resemble ships' carving; there is also evidence of intercourse with the Dutch during the reign of Anne, and many old slip-ways mark positions where the keels of brigs and frigates have been scarfed. Proceeding from Topsham without any particular programme, we journey back through Salisbury to search Southampton for the ancient shipyard at Northam, where the wooden walls were constructed; and, finally we seek Montagu Town, a place no longer marked on the maps, for my instinct for these things tells me that here we shall find one of the most important of the lost munition centres.

* * * *

Accordingly the train takes us to Southampton to Northam, but not a trace of a figure-head will greet our eyes, although a vast concourse is at work on seaplanes and many new buildings are devoted to the repair of yachts and the fitment of ocean-going steamers. The next thing is to trace Montagu Town which (rumour states) stands near the Cistercian Abbey of Beaulieu. The ferry boat will transport us to Hythe and the road will lead us through the glades of the New Forest to the Manor of Bewley, and at this point I will give a résumé of my inquiries relative to the whereabouts of Montagu Town,

which few local people had heard of. Eventually I decided to make for Buckler's Hard on the Beaulieu River, surmising that this village might be another name for the old ship-building settlement, and, as will be seen, my conjectures were right. A week ago the mention of either Montagu Town or Buckler's Hard would have conveyed nothing to me beyond a pleasant sense of euphony; but my persistency, not to speak of my desire to act the medicine-man and smell-out secrets, keep me to unfrequented lanes and my thoughts expectant. It was twilight when I came to Buckler's Hard, but a glance told me it was "Montagu Town," which I had a vague notion had not entirely vanished. No guide-book was to my hand. The libraries of Southampton, sixteen miles away, might contain information; possibly my Lord of Beaulieu, in his castle near by, held his ancestors' title-deeds and conveyances, but access to these parchments was for the moment denied to me. As I stood on the greensward of the declivity between parallel rows of brick cottages mellowed by time, I read the history of the place in my own way. Below I could see the evening light playing on the windings of the Beaulieu River, framed by the trees and groves of the forest. The corner house on my right first claimed attention; its door-head and bay window showed signs of having been the village inn. On the right, at the bottom of the street, I picked out an important-looking house which by its appearance was at one time the home of the master shipwright; and, studying the faces of the other houses, I peopled them with carpenters, caulkers, and ironworkers. I was astonished at the distinctness of everything. There had stood the gates to the village, on this slope had laid immense balks of timber, pulled hither by Shire horses. These walls had echoed to the sound of mallet and hammer, and below the street, these staked indentations on the shore had been the cradling places of ships long since broken up.

* * *

Here at Buckler's Hard one is indeed back in the past. There are many firesides and close roofs, small parlours and panelled doors, with distinctive mouldings to corner cupboards, all the domesticity of home, in this old munition centre. Each house has a long garden with a single apple-tree at the end. One speculates on the yarns of the sea that must have been enjoyed by the old craftsmen under these trees during their periods of ease, when they smoked Virginia tobacco and conned copies of the "Gazette" containing news of victories over the enemy gained by the ships they had helped to create. The hamlet, from its situation, was evidently an agricultural and fishing village for centuries before John, second Duke of Montagu, chose the place in order to encourage local shipbuilding. The Duke had in mind the ship-yards of Northam, Bursledon, and Lymington, and held out all sorts of advantages to shipbuilders to come to "Montagu Town," partly to dispose of the valuable trees on his estates, but mainly to advance the interests of his island of St. Vincent; for he intended that merchant ships should sail direct between the two places.

As a result of such advances the firm of Wyatt and Co., Shipbuilders of Bursledon, on the opposite side of Southampton Water, settled here in 1743, and they were succeeded at a later period by the firm of Adams and Co. The master shipwright for more than sixty years being Henry Adams, who occupied the house previously mentioned; he doubtless made his plans at the draughting board which still exists, and filled the drawers with his accounts, all the time keeping a vigilant watch over the busy hive under his control.

War Memorial Panel.

THIS memorial, of which a replica is now on exhibition at the Victoria and Albert Museum, has been designed by Miss F. B. Burlison, and executed by her with the assistance of Guglielmo Tosi, and has been erected to the memory of Captain M. G. Donahoo, M.C., in the Lady Chapel of Womersley Church, Surrey. Some of the decorative details might have been omitted with advantage, particularly those immediately above and below the motto, of which the lettering is rather badly formed, and is on too large a scale. Young artists do not give sufficient thought to lettering. They seem to be unaware that it has the strength to make or to mar the design to which it is attached. In the present instance its influence is more powerful than pleasant. A letter one-half its height would have been twice as successful. But in this, as in the general design, the author has apparently followed faithfully the Florentine tradition. (See plate, page 79.)

32, Rue du Luxembourg.

Most architects would probably call this front "handsome," qualification or reserve being indicated in the tone rather than in the words. If M. Cahn-Bousson was a little too lavish of his resources, he knew at least how to

In a map published about the year 1750 the advantages the place are set forth in alluring terms. The river is described as offering safe anchorage "with Depth of Water sufficient to bring up Ships of almost any Burden as far as Bucklesha which is two miles from the Sea, where is a Convenient Key 100 Foot long, and 80 Foot wide, the depth of Water being 18 Foot. Adjoining to the Key there is a good situation for a Town, upon a rising ground, gravelly soil, with plenty of Fresh Water." The advertisement goes on to say: "There is great convenience for making Docks for Building Ships, and great Quantities of Timber growing on the Place fit for Shingles or Houses and Brick and Tiles made there at very reasonable Rates. There is likewise a Market once in every Week, and two Fairs in every Year." From this it is apparent that the place was built almost entirely from local materials, and that the men who made the houses afterwards turned their attention to the building of ships. The advertisement continues with

"PROPOSALS.

"For the greater Encouragement of Trade in the said Harbour, any Merchant, or other Person, that is willing to settle there, may, upon Application to his Grace the Duke of Montagu, have a grant of a Piece of Land, 170 feet in Depth, and 40 feet in Front, at the yearly Ground Rent of Six Shillings and Eightpence only, and so proportionable according to greater or lesser Quantity of feet in Front.

"That every House may have a Close of Land belonging to it in the neighbourhood (if required) of two Acres, at the Yearly Rent of 13s. and 4d.

"That the Front of all Houses be built entirely with Brick.

"Three Loads of Oak-Timber will be allowed Gratis for every House so to be Built.

"The abovesaid grants to be made for 99 Years, if either three Persons nominated shall so long live, without paying a Fine for the same."

Penning these random notes at a distance, I see a picture of the place in pale tints. To have the feeling of any old place it is essential to have thoroughly explored it. One must know the details intimately, not the meagre information afforded by collecting dates and legendary facts. Such can be had at cheap terms; they are accessible to any scribbler with a notebook and a reader's ticket to the British Museum. To establish acquaintance with the past means that one must thrust oneself into a species of trance. In order to understand the mysterious charm, one begins by studying obvious things, such as brickwork, and one ends by imagining the character of personalities. Montagu Town to-day presents the appearance of a deserted village.

* * *

The question of the moment might well be what is to become of the munition buildings and villages erected during the past five years? There are eighty works near Netley, huge sheds at Basingstoke, and acres of roof at Farnborough, while even the most important town in England can point to temporary buildings hastily erected when the country was in danger. To me it is a melancholy sight to see abandoned aerodromes with hangars and buildings half completed disfiguring the landscape. Perhaps the genius of the race will see to it that nothing is wasted and that new industries are encouraged. To my mind it would be a blessing if the Government sold some of the derelict masses of brickwork to help to meet the demand for local houses and cottages.

AERO

The Plates Described

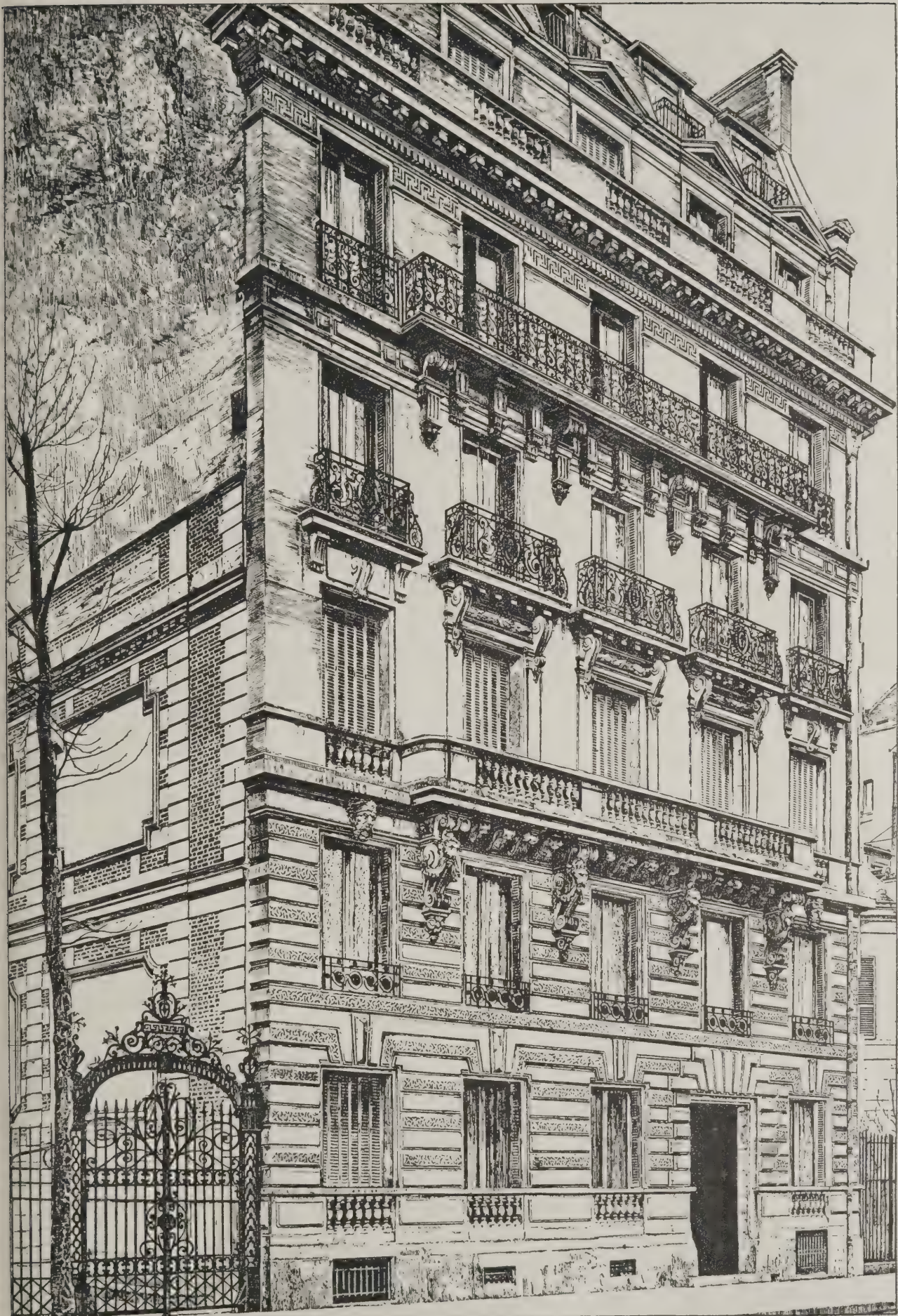
use them, and he has shown us a building that, while it is handsome rather than beautiful, is not meretricious, though certainly lacks reticence and repose. Its balconies and its consoles are too numerous, robbing each other of their effect; individuality is lost in a crowd. The entrance is rather meanly situated—some requirement in planning must have dictated its anomalous position—and its top should have been brought into alignment with the adjacent windows. The storeys are too much broken up, emphasising the general impression of nervous fidgetiness. But, on the whole, the composition is certainly elegant and graceful, if a little exuberant in detail. (See plate, page 83.)

Tor Royal, Princetown, Dartmoor.

This building, which is chiefly remarkable for its beautiful roof and the elegant dormers that seem almost like a natural outgrowth from it, is referred to in the article on Tor Royal on page 85. (See plate, page 87.)

Swanpool Garden Suburb, Lincoln.

The lay-out of this scheme is given on our double-page plates 90 and 91, and detail plans on pages 93 and 94, while a descriptive article appears on pages 88 and 93. The architects are Messrs. Thompson, Hennel, and James, of London.



32, RUE DU LUXEMBOURG. CAHN-BOUSSON, ARCHITECT.



TOR ROYAL, PRINCETOWN, DARTMOOR: GARDEN FRONT RICHARDSON AND GILL, FF.R.I.B.A., ARCHITECTS.

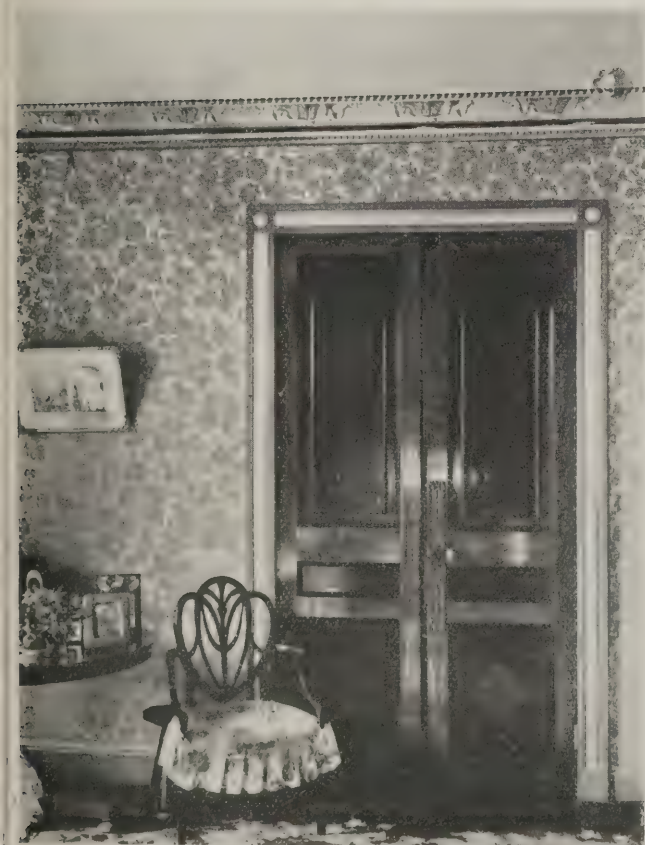
Tor Royal, Princetown, Dartmoor

TOR ROYAL, the modest country house of His Royal Highness the Prince of Wales, stands on Dartmoor a mile from Princetown. The house originally formed part of the farm and outbuildings built by Mr. Thomas Tyrwhitt, Lord Warden of the Stannaries, in 1785, and completed in 1798. The site selected is just under the western boundary of the forest, with the Prince Hall and Two Bridges

enclosures on one side. Mr. Tyrwhitt, true to local traditions, chose a sheltered situation for his homestead rather than one commanding wide and distant views of the Moor, although from the windows of Tor Royal an extensive panorama of the surrounding country can be seen. Having built the nucleus of his house—that is to say, the centre portion—with the kitchen wing and the ranges of stable buildings, including the tower



The Dining Room.



Drawing-room Door from Carlton House, London.



Tower in Courtyard.

TOR ROYAL, PRINCETOWN, DARTMOOR. RICHARDSON AND GILL, FF.R.I.B.A., ARCHITECTS.

and the entrance lodge, Tyrwhitt next turned his attention to improving farming conditions by reclaiming portions of the forest. He also devoted much time and energy to the construction of the public roads, as they now are, across the Moor. Finally, in 1805, he was instrumental in persuading the Transport Board to fix upon the hamlet of Princetown as the most suitable position for the building of a war prison. On July 18 an official of the Transport Board arrived at Tor Royal and met Mr. Tyrwhitt, who, with Alexander, the architect, examined many sites on Dartmoor and at length fixed upon the present site near Mr. Tyrwhitt's lodges. Mr. Tyrwhitt laid the foundation stone of the prison on March 20, 1806, and although this vast building has since undergone alterations and additions it is still the most conspicuous landmark. Gradually Tyrwhitt witnessed the realisation of his project for establishing a town practically in the centre of Dartmoor. In 1813 the church was finished, and by 1826 there were at least thirty houses in the town. In the meantime a railroad from Plymouth had been completed, the first of its kind in the West of

England, and certainly something unique for Dartmoor. The Carlton House was demolished Tyrwhitt, now Sir Thomas, obtained some of the panelled and decorated doors which formed part of Holland's design for the interior, and probably a fireplace or two, in order to build an additional suite of rooms. It is more than likely that he commissioned Alexander to superintend this addition to Tor Royal, raising it from the status of a country farmhouse to that of a small but distinguished manor.

For rather more than a century Tor Royal has been closely connected with the Duchy of Cornwall. The house was purchased to form part of the Duchy estate in 1845, and since seven years ago it was thoroughly repaired with respect to its earlier characteristics.

Illustrations are given in this issue of this interesting building as it appears to-day. The alterations, including the new rooms, were carried out under the supervision of Messrs. Richardson and Gill. Mr. Hedges was clerk of the works, the contractor being Mr. John Halfyard.

Swanpool Garden Suburb, Lincoln

MESSRS. RUSTON AND HORNSBY, LTD., have realised the serious over-crowding in Lincoln, and two of the directors, Colonel J. S. Ruston and Mr. G. R. Sharpley, deemed it essential that some public-spirited move should be made to relieve the trouble and to cope with future extensions.

Early this year the Swanpool Co-operative Housing Society, Ltd., was formed, and Colonel Ruston and Mr. Sharpley became chairman and vice-chairman respectively. They gave a very considerable financial backing to the society, to place it on its feet, but the society has no connection with Messrs. Ruston and Hornsby, Ltd., as a firm, and will let the houses to any of the working people employed in the various industries of Lincoln.

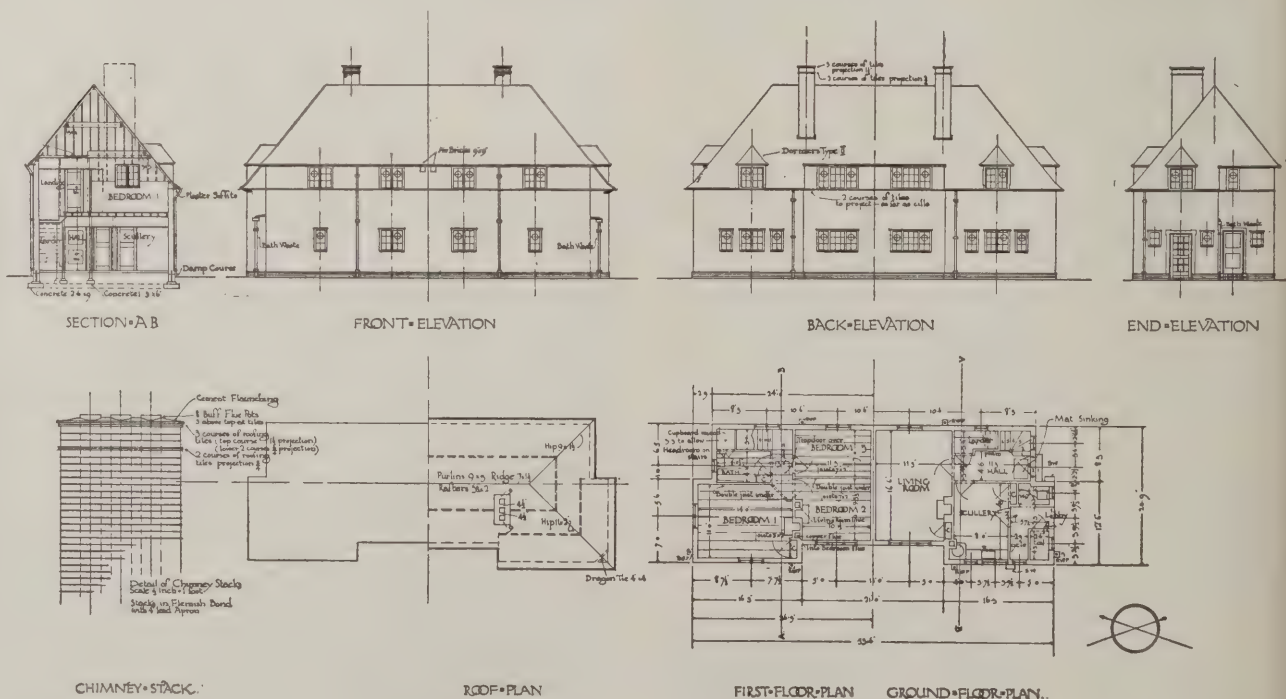
As shown by the lay-out plan (pp. 90, 91), the estate, consisting of about 370 acres, is situated on a nearly level site and contains a large lake, known as the Swan Pool, from which the name of the estate is derived. This lake will be available in due course for boating and bathing, and a large portion of the land has been reserved round it as an open space and pleasure ground, being already well covered with trees. On the west side will be the recreation and cricket ground, with pavilion, etc. To the south is shown the technical institute standing in an open square, while extending southwards is the Main Avenue, ending in the main Central Square, where in due course will be situated the church, free church, institute, and other public buildings. Many open spaces are reserved for

tennis courts, bowling greens, playgrounds, orchards, and amusements, etc. The main approach from Lincoln, about one mile distant, will be by means of a bridge over the Midland Railway. At this point will be arranged the principal shopping centre. Two other shopping centres are shown, one near Central Square and one to the east of the Swan Pool. Sites for schools, swimming baths, laundries, public bakehouse, power station, etc., are reserved. It will be seen that when completed the estate will combine all the essential elements of a self-contained community.

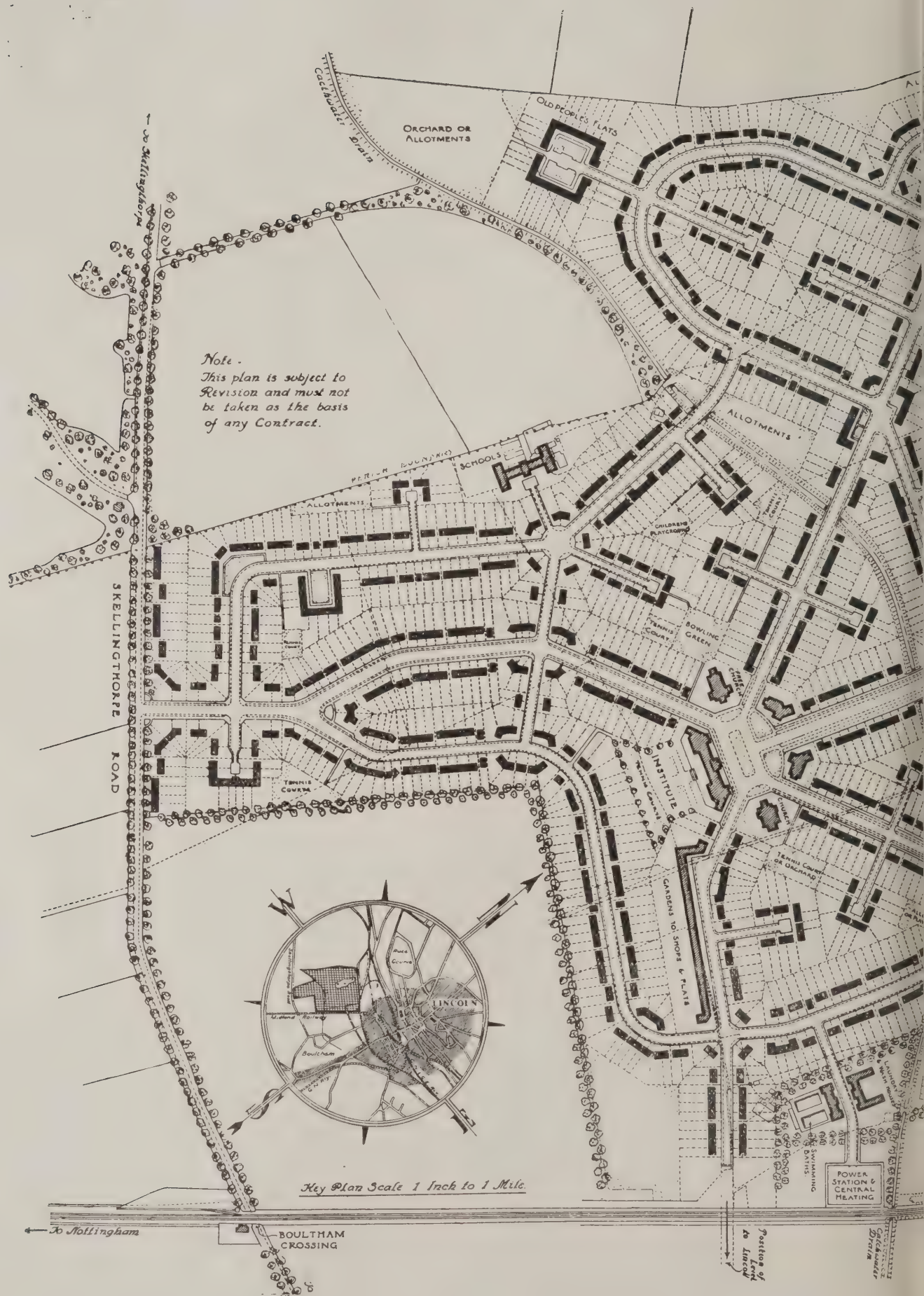
Provision is made for the erection of some 2,500 to 3,000 houses, to meet the requirements of residents with either large or small families.

One of the most attractive features of the scheme is the proposed installation of central heating and constant hot-water supply, generated in one operation with the supply of electricity for house and street lighting and for cooking. Under the proposed system the waste heat produced in generating the electric current will not be dissipated, but will be turned to a practical use in providing the heating and constant hot-water supply for all the houses and other buildings on the estate.

The external design of the cottages illustrated has been dictated to a large extent by the fact that good facing bricks were not available in sufficiently large quantities or at a reasonable price. Fletton bricks and roughcast have had to be used, which almost compelled a more or less informal treatment. As soon as facing bricks of good surface and color



SWANPOOL GARDEN SUBURB, LINCOLN: A PAIR OF COTTAGES. THOMPSON, HENNEL, AND JAMES, ARCHITECTS.



SWANPOOL GARDEN SUBURB, LINCOLN.



n be obtained, a more formal Georgian treatment will be adopted in many parts of the estate.

The roofs are of sand-faced tiles and chimney stacks of sand-cement brick. Internal partitions where walls do not carry up to the roof are of 2½-in. coke breeze. The accommodation is the "desirable minimum" given in the Tudor Walters Report, but all the uses illustrated have bathrooms upstairs. The cooking being done by electricity, no ranges are being put in, except in the cases where the generating plant will be ready before the generating plant.

Simple hearth fires with narrow cast-iron band, tile surround, and wooden architrave and mantel are being used for parlours and living rooms, with small mantel registers (chiefly for ventilation) in the bedrooms. Fixed dressers, and cupboards in each bedroom, are provided.

The first houses are now being roofed and over sixty have been commenced. The architects for the whole scheme are Messrs. Thompson, Hennell and James, Aldwych Chambers, 170, Strand, W.C.2.

Birmingham Housing Exhibition: Second Notice

THE Lady Mayoress (Lady Brooks), accompanied by the Lord Mayor (Sir David Brooks), opened the Birmingham Housing Exhibition at the Birmingham Town Hall on Wednesday afternoon. The object of the exhibition, which remains open until July 19, is to give instruction and to receive advice. Persons interested in housing are invited to attend and see what the Government, the Housing Committee, Gas and Electricity, and other departments of the municipality, and private firms, are prepared to do to assist in the solution of the housing problem.

Besides the models of approved houses, there are exhibits by the Director of Building Materials Supply, showing what materials are available, while the exhibits of the Corporation Electric Supply and Gas Departments are directed towards showing the modern application of gas and electricity to heating and cooking.

Before the exhibition was opened the Lady Mayoress was presented with a bouquet by Mrs. R. Graham, daughter of Mr. H. E. Farmer (Housing Commissioner), who had been asked by Dr. Addison, President of the Ministry of Health, to convey his thanks to the Lady Mayoress for the propaganda work she had done in connection with housing reform. Councillor Siward James (chairman of the Housing Committee) mentioned that Dr. Addison would have liked to be present, but was prevented by his public duties.

The Lady Mayoress, in declaring the exhibition open, said that the housing question was engaging the attention of the best statesmen and public men, and women too were now being allowed to have a voice in the matter, which was a vital one for them. A man required an abode where he could be at peace and comfort after his day's work, and a woman required a place where she could bring up her family under decent conditions. At the present time neither the man nor the woman had a decent chance. There could be no prosperity unless people had decent houses to live in. In providing new houses they must see that they were of the best type, arranged on a convenient plan, and containing all requisite conveniences. The exhibition was promoted for that purpose.

Mr. H. C. Field, in seconding, and speaking on behalf of the Birmingham Chamber of Commerce, said they were vitally interested in the housing question. They wanted the commerce and trade of Birmingham to develop, and those who were engaged in developing it, whether from their offices or in the streets, required comfortable homes to live in and rest in after a day's work.

Following the opening ceremony, the Lord Mayor and Lady Mayoress inspected the exhibits.

The following additional details of the exhibits (the majority of which were described in last week's issue) are of value and interest.

"Simplex" Combination Grate.

Messrs. Hassall and Singleton, Ltd., Freeman Street, Birmingham, exhibit their "Simplex" combination grate, which is specially designed to enable the use of the kitchen as a living-room in which the cooking can also be done. A boiler is provided to which the bath apparatus may be connected giving a plentiful supply of hot water. The grate consists of cast-iron with adjustable canopy, movable fire front with fall door, oven 16 in. by 16 in., by 17 in., with hot closet or plate over same, sectional fire brick back and movable soot door for cleaning the flues. In view of the possible shortage and the certainty of high prices of coal these grates should help to meet a national emergency.

Magical Electric Fire.

Messrs. Berry's Electric, Ltd., the Switch House, Newman Street, London, W., show Berry's "Magicoal" electric fire, which is in effect a coal fire at its very best. It can be fitted in to any grate. The resemblance is so extraordinary that one who is gazing upon a blazing coal fire, even including the flames. This result is obtained (at 1½d. heating rate per hour) at a cost of less than the price of burning a wax candle. The heat, at proportionate cost, can be applied to the heating of the room so that by simply touching the switch, different degrees of

heat can be obtained to the desired intensity. Toast can be made in a few minutes or water boiled. The Berry "Colec" system of radiant heating provides for raising the temperature of any room to 55 deg. F., by central coal or coke heating, and provides the top-dressing or last 5 deg. to 10 deg. F. by means of electricity, and their "Wun-Fire" apparatus provides separate central heating and hot-water supply, with only one furnace. The apparatus is so constructed that there can be no lime deposit in the boiler, the two waters being separate, thereby obviating the necessity for cleaning out. The "Wun-Fire" consists of a wrought welded independent boiler, and a wrought welded storage cylinder, joined together by means of a patent flange.

Fireproof Bungalows, etc.

Mr. C. Pegram, Saw Mills, Northfield, Birmingham, shows a fireproof bungalow, which is wholly built of iron framework properly and securely tied together. The wall interiors are covered with asbestos slabs, and the sides and ends and roof are covered with boarding on which are fixed patent red or other coloured "Grip" windproof tiles, or, if preferred, the walls can be covered with rough-cast in cement. Doors and windows can be placed in any position. The doors are in pairs, 8 ft. 6 in. wide by 8 ft. 6 in. high, giving ample room for motors to pass. Hang-on hook and band hinges are fastened to the iron framework of building. Floors consist of stout joists covered with grooved and tongued floor boards, with efficient ventilation underneath or can be made in concrete if preferred. This firm make also fireproof portable billiard rooms, as well as portable motor houses.

"Winget" Blockmaking Machines.

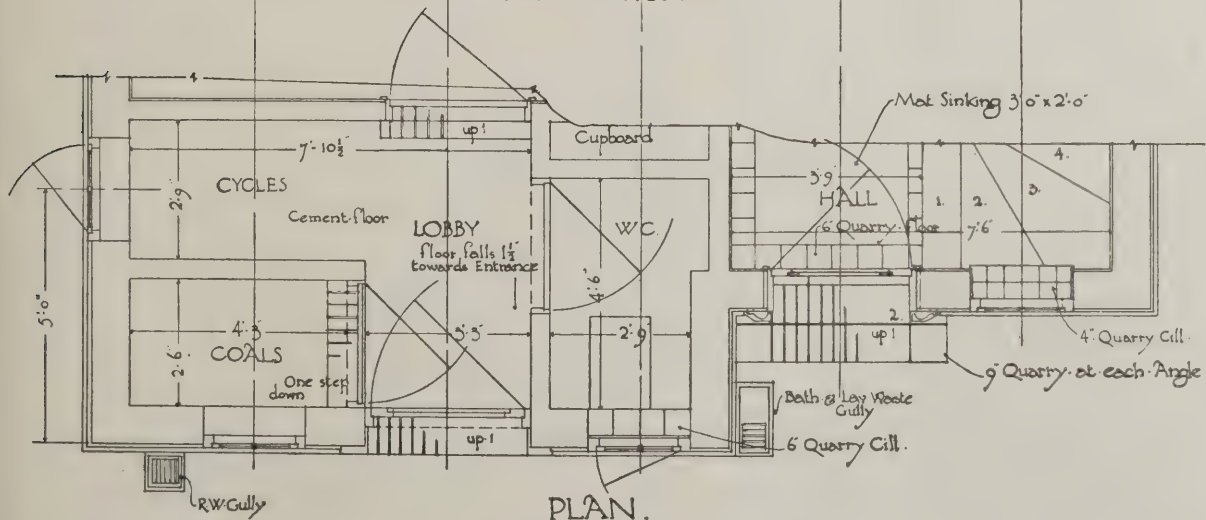
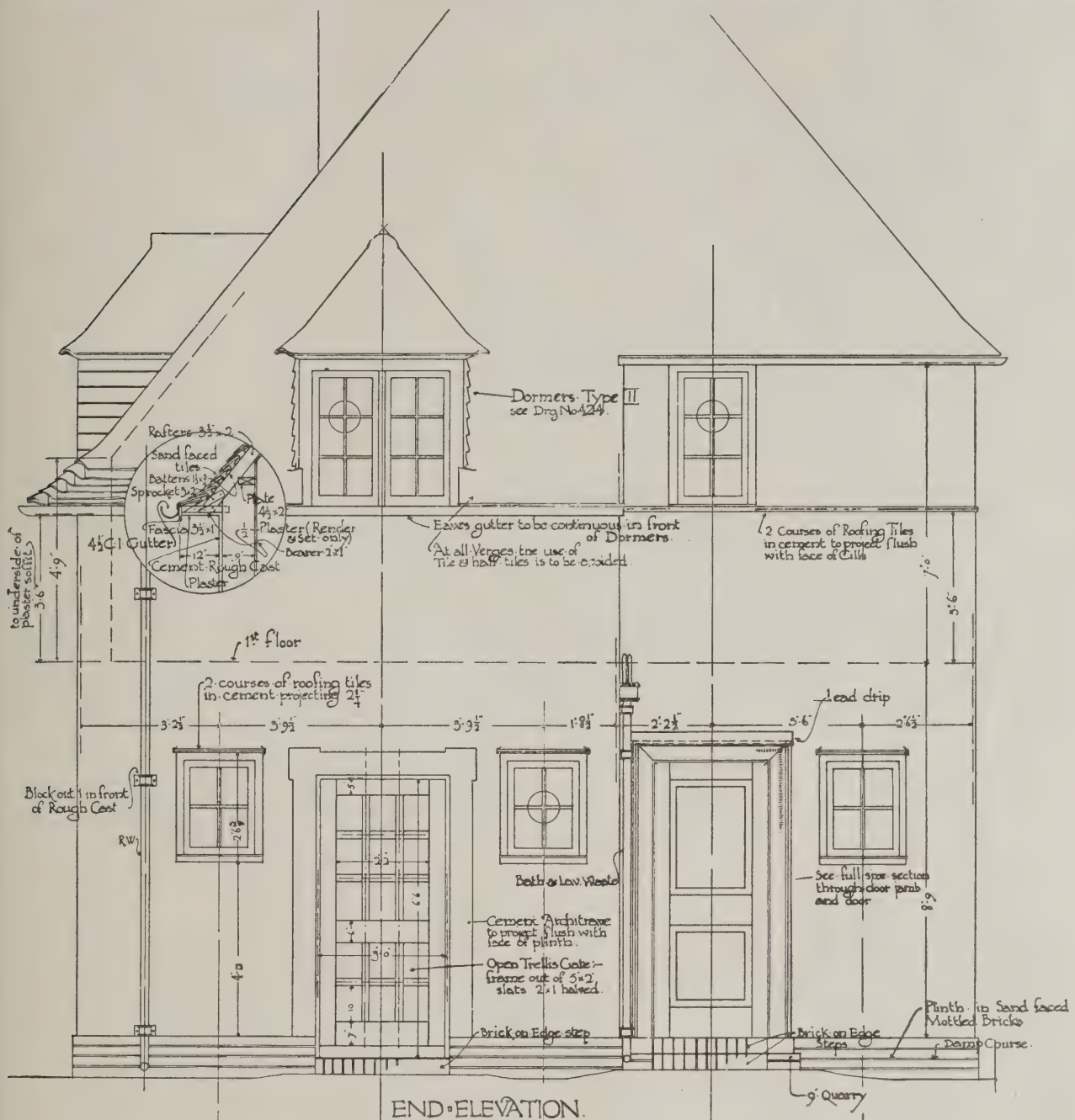
Messrs. Winget, Ltd., 25, Victoria Street, London, S.W.1, have one of their blockmaking machines actually at work. This is one of the most interesting features of the exhibition, and has naturally attracted a great deal of attention. As we have repeatedly shown, the "Winget" machine is playing a very important part in the housing movement, as it provides rapidly and economically the units of construction for cottages that are really beautiful when designed architecturally.

Standardised Woodwork.

Messrs. Rippers, Ltd., of Castle Hedingham, Essex, show specimens of their specialities in joinery, including their space-saving cupboards and combined kitchen dresser and table. In the construction of the cupboards, the interior, which revolves, is divided into four sections, one for the storing of brooms and articles with long handles, another has two shelves to receive shorter utensils, and the remaining two are divided into a number of compartments to accommodate the many small household requisites. When a certain article is required the inner portion is turned round to the particular section provided for that purpose. The combined kitchen dresser and table, the object of which is to save space and labour, has been designed to meet the needs of both kitchen and living room. The dresser portion is provided with four ordinary drawers, two enclosed cupboards, a flour cupboard, the usual plate shelves, which may be either open or enclosed as desired, a small sundries cupboard, and a spice cupboard fitted with the revolving attachment described above. On the front of the dresser is a folding table, and at each end a slide, thus providing accommodation for six persons. Messrs. Rippers, Ltd., supply joinery in bulk for housing schemes and enriched woodwork in either mouldings, doors, or mantels.

Concrete Mixer.

Messrs. the Ransome-verMehrs Machinery Co., Ltd., 2, Central Buildings, Westminster, S.W.1, are showing a lightweight Ransome concrete mixer, size No. 00, with a batch capacity of approximately 2 cubic feet of mixed concrete and an average output of 20-25 cubic yards per day. It is complete with fixed measuring hopper, regulating water-tank, and direct-coupled totally encased petrol engine, the whole being mounted on wheels and axles set to a gauge of 2 ft., and running in roller bearings. The firm show also the Ransome concrete cart for the removal of mixed concrete, approximate capacity 6 cubic feet, with handle and large diameter wheels.



SWANPOOL GARDEN SUBURB, LINCOLN: HALF-INCH DETAIL OF COTTAGE.

THOMPSON, HENNELL, AND JAMES, ARCHITECTS.

The Deflection of Beams due to Unsymmetrical Loadings

By PERCY J. WALDRAM, F.S.I.

FORMULÆ for calculating the deflection of beams and cantilevers are given in practically all structural text-books and hand-books of structural steel work. They are confined for the most part to cases of simple loads symmetrical about the centre line of the span of parallel girders; whereas in practice the loads on the girders are often very irregular, and frequently consist of concentrated point loads irregularly spaced.

The total deflection due to a combination of distributed and point loads can, it is true, generally be approximated with sufficient accuracy for practical purposes from the formulæ for symmetrical loading. But the designer who uses approximations merely because he knows of no more exact methods is apt to find himself in difficulties. He is particularly at a disadvantage in cases of dispute, and especially when called upon to justify a particular joist or girder under regulations which determine its use according to the calculated deflections. Cases of this character often arise under Section 22 (7) of the L.C.C. General Powers Act, 1909, governing steel frame buildings in London; and the need of exact pre-determination of deflection arises not infrequently in general practice.

Whilst the use of approximate calculations for structural work might be considered to be justifiable where exact methods are indicated to an impractical degree, there is no excuse for them when exact methods are usually simple. It will be found that the following methods and formulæ which are applicable to all cases of deflection

under irregular loading involve no more labour in their application than the use of the ordinary formulæ for symmetrical loadings.

Standard Formulæ for Calculating Deflections Due to Symmetrical Loading.

The general standard formula for calculating deflections is $\Delta = \frac{NWl^3}{EI}$, the constant n being varied to suit different conditions. It will be convenient briefly to consider its construction.

It can be shown* that if the diagram of flange stresses which are set up in any bended parallel girder be considered as a load, then the curve of the bending moments which would be caused by such hypothetical loading is of the same form as the curve of deflections due to real loadings which cause such flange stresses.

Fig. 1 shows the case of a parallel girder (A B) carrying an equally distributed load. The diagram of flange stresses, $r m n s$, is a parabola. If this diagram be divided into any number of parts, such as $m n o p$, etc., it can be shown that the moment of the area of each part about the point of maximum deflection when divided by the modulus of elasticity (E) of the material and by the depth (d) of the girder will be equal to the deflection due to the stress operating in each flange of the length of girder covered by the part of the diagram under consideration.

* "Treatise on Bridge Construction," T. Claxton Fidler (Griffin), p. 117; or "Principles of Structural Mechanics" (Batsford), 1912 ed., p. 190.

It is convenient to measure the maximum deflection at the bearings A or B rather than at the centre of the girder, and to regard these points as the position of maximum deflection.

Considering one half, $r m n q o$, of the parabolic diagram of flange stresses, due to an equally distributed load (W), then the total deflection due to the stress in each flange will correctly be expressed by the area $r m n q o$ multiplied by the distance of its centre of gravity from A and divided by $E \times d$. This is identical with the bending moment at g due to a parabolic load, $r m n q s o$, divided by $E \times d$.

Let f = the centre ordinate of maximum stress intensity, Z = the section modulus, d = the full depth, and I = the moment of inertia of the girder. Let I be constant throughout the span.

$$\text{Then } Z = \frac{2I}{d}, f = \frac{Wl}{8} = \frac{Wld}{16I}$$

The area of the semi-parabola = $\frac{3}{8} fl$

and the distance of its cg from A = $\frac{5}{16} l$.

The deflection in terms of W due to the stretch of each flange is therefore

$$\frac{fl}{3} \times \frac{5}{16} \times \frac{1}{Ed} = \frac{5}{768} \frac{Wl^3}{EI}$$

and as both flanges are stretching the formula assumes the familiar form of

$$(1) \Delta = \frac{5}{384} \frac{Wl^3}{EI}$$

or $n = \frac{5}{384}$ for the conditions stated.

In the case shown let the girder be 6 in. deep with an I of 20 inch units and of mild steel with an E of 12,000 tons per sq. in.

The load being 2.5 tons and the span 120 in., the deflection will be

$$\frac{5 \times 10 \times 120^3}{384 \times 20 \times 12000} = .235 \text{ in.}$$

Values of n for other conditions of symmetrical loading can similarly be calculated, and are given in most text-books.

It should be noted that the diagram of flange stresses is also a diagram of bending moments $\div Z$ or by $\frac{2I}{d}$, and also that

the moment of each little strip of the flange stress diagram (treated as a load) about the bearing is also the contribution which that little strip makes to the total bending moment.

From this it follows that flange stresses $\times 2 \div Ed$ are equal to bending moments $\div EI$, and therefore that the deflection at any point is numerically equal to the bending moment caused by a hypothetical loading of the actual bending moments $\div EI$.

$$\text{Thus } f = \frac{BM}{Z} = \frac{BMD}{2I}; \frac{2f}{Ed} = \frac{BM}{EI}$$

Before considering how the same results can be obtained graphically it will be desirable to deduce similar arithmetical formulæ for the important case which practically all text-books ignore, viz., the deflection due to a point load which is not at the centre of the span.

Such formulæ (Nos. 1, 2, 3, and 4 below) are quite simple and easy to apply. Their deduction involves a little tedious elementary algebra. In order to enable the reader to follow these deductions readily, the essential steps are given in full, because they are not, as far as the author is aware, to be found in any text-book.

(To be continued.)

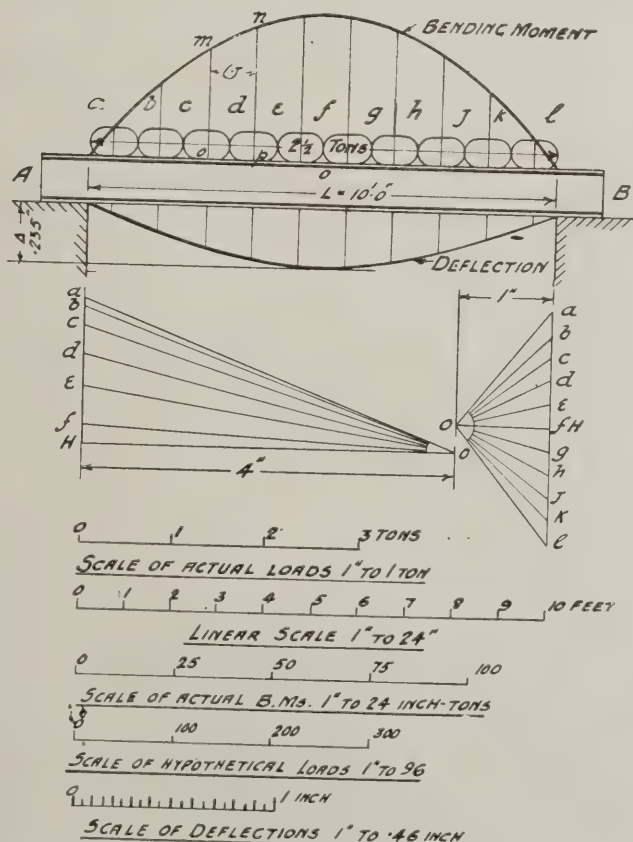


Fig. 1.

CORRESPONDENCE.

Unity in the Profession.

"Let us think together, act together, work together."—Lloyd George, July 4, 1919.

SIRS.—The vital importance of this subject induces us to ask for space in your columns to support the articles and letters recently published in connection with it.

At the present time the mind of every man is turned towards peace and reconstruction.

In our profession, more perhaps than in any other, the need of both is great.

We require strong and united leadership in the difficult time ahead.

Instead, we have in London two architectural societies, each trying to lead, but often leading in opposite directions, though each exists presumably to benefit the profession. The resultant inefficiency of effort and waste of money is lamentable enough, but the effect upon the profession and the public is disastrous.

Each has a different policy and a separate set of officials, paid and unpaid, with separate offices, staff and official literature to carry their work into effect. There are two sets of examiners and examinations, which entitle the successful candidates to append two different sets of initials after their names. Two sets of committees are appointed to deal with the same set of architectural, technical, and professional problems, and each issues reports. On occasion we read of two sets of deputations waiting on the same Government official, and two letters to the Press, sometimes agreeing with each other, but more often not.

Can we wonder that the public is bewildered, and that architects do not hold the position they should?

Can anything indicate a more pitiable lack of statesmanship than that such a state of affairs should be allowed to continue, especially after the lessons taught by the war?

That such dissension prevailed at the outbreak of war is, we are convinced, one of the reasons why the Government did not entrust any important section of war work to architects, and so we saw many of our distinguished men either unemployed or serving in the ranks when their technical qualifications might have been used with far greater value to the country.

Nothing can be achieved until all these dissensions are swept away and the two societies fused into one.

Then will the profession for the first time for many years be able to present with a united front its policy for future progress.

What particular difficulties stand in the way we can only guess, but they must at all costs be swept aside by persistent effort, and, when necessary, by sacrifice of self-interest comparable to that given by those who, in the nation's crisis during the last five years, risked, and in many cases gave up, everything for a great ideal. The difficulties may appear great, but the advantages of surmounting them are so much greater that it will be disastrous to the profession if the present miserable state of affairs be allowed to continue without a real practical attempt being made to effect unity.

We appeal to the councils of both bodies to meet and discuss together in a friendly and informal way how this great object can best be obtained. Such a discussion may well lead to a settlement on broad lines of that unity of command which all

thinking men know to be essential in peace as well as war.

H. BAGENAL.
W. DUNN.
BANISTER F. FLETCHER.
H. M. FLETCHER.
THEODORE FYFE.
W. CURTIS GREEN.
H. AUSTEN HALL.
EDWIN LUTYENS.
A. G. R. MACKENZIE.
E. BRANTWOOD MAUFE.
W. G. NEWTON.
G. GILBERT SCOTT.
H. H. WIGGLESWORTH.
J. H. WORTHINGTON.
P. S. WORTHINGTON.

The R.I.B.A. Ballot.

SIRS.—With reference to the paragraph entitled entitled "The R.I.B.A. Ballot and Unity of the Profession," in your "Notes and Comments," July 2 issue, I should like to point out that the remarks contained therein are hardly fair, and not quite illustrative of the true facts of the case. The ballot in question was initiated by the necessary number of Fellows and Associates of the Institute under the provision of By-law 10 by means of the usual requisition to the Council. Being fully cognisant of all the circumstances of the requisition in question, I am certain that such wholesale blackballing as that which took place was not the intention of these members. Certain candidates up for election had been registered on the books of the Institute some years before the war began, or was even thought of, which interval of time between such registration and the outbreak of war offered on the face of it no tangible excuse for not taking the Final. It was against these cases that the objection was raised. It is not the fault of the Institute as a body that such a regrettable result was obtained, but of those members who petitioned to the Council in the first place. It would have been preferable if these gentlemen had devoted more time, fair reasoning, and had exercised their judgment more carefully before adopting such a hasty method of voicing their complaints. The result has been lamentable, and certainly does not paint them in very favourable colours. It would be as well to point out the effects of their misplaced energy. If the ballot is applied to one lot of candidates, what is to be their attitude with regard to the previous elections benefiting from the concession? Did they forget about these?

The concession has been in force now since March, 1918. Is it not rather late in the day to wake up suddenly to the facts? It is, however, a hopeful sign of the times that at least some members are waking up to take an interest in Institute affairs, even though they do get out of bed the wrong side.

Again, surely the Board of Architectural Education are more in a position to judge? But, no; an analysis of the merits of the candidates is submitted which is as misleading as it is incorrect.

No, sirs, as you say, it is far from easy to admire the spirit of the ballot or the result; but the wholesale attack on the Institute, and indirectly its governing body, is to be deprecated, as they are not wholly responsible. A requisition was made by the right number of members, and it had to be complied with under the by-laws. It is those members who are to blame, not the Institute. Again, you say, "the Institute will need all the strength it can muster if it is to hold its own against its rival orga-

nisation." By this you presumably imply the Society of Architects as the rival organisation. The Society strongly deprecates this term, as there has never been any question of rivalry with the Institute in its policy. In fact, the aim of the Society has been recently to effect a rapprochement with the Institute in matters architectural, and in no time in its history has it endeavoured to supplant the Institute. This fact is clear.

INTERESTED.

The Late Sir Archibald Dawnay.

SIRS.—It has come to the knowledge of our clients, Messrs. Archibald D. Dawnay and Sons, Ltd., of Steelworks Road, Battersea, that rumours are afloat that owing to the death of the late Sir Archibald Dawnay, our clients no longer intend to carry on business. Our clients desire us to inform the public through your columns that there is absolutely no foundation for this rumour; that the business will be carried on by them as heretofore, and that the late Sir Archibald Dawnay has taken very little active part in the conduct of the business for many years.

BULL AND BULL, Solicitors.
3, Stone Buildings, Lincoln's Inn,
W.C.2.

Panel of Architects.

SIRS.—One of the most frequent causes of delay in starting the housing schemes has been the reluctance to employ or the inability to decide upon one architect. Competitions take much time, and the results are not altogether satisfactory, inasmuch as loss of time again occurs from amendment to the premiated drawings.

The many enquiries made by urban and rural councils as to the employment of them of architects with experience in design and execution of the lay-out of estates and the housing for the working classes, and the desire of the Government frequently expressed, that young architects who have served their country should be enabled to gather together their practical again and tide over the initial difficulty this in employment on the housing schemes immediately going on, led me to suggest the formation of a panel of architects in Birmingham, especially for the work of housing by State-aided schemes. The matter has readily and unselfishly been taken up by the chief architects of the City, and a council of four are lending their aid, and the immense value of the experience makes it possible for a younger man, with his artistic ability, to be employed on the work.

It is undesirable that individual architects should be nominated by the Commissioner at the request of the councils, as many of the well-known architects and members of the Town Planning Institute are already very fully occupied.

The procedure being as follows: request by a local authority, the Commissioner will put this authority in touch with the secretary of the panel of architects. The committee will then consider the strict and its requirements, and appoint from the members of the panel one architect and as many of the younger men as can be employed expeditiously in work to jointly carry out the scheme, probably in sections of from fifty to hundred houses to each architect, the being pooled.

This will result in excellent work, giving forth individuality of design from the younger men, who will be assisted by the expert advice of the experienced architects. The Ministry will benefit by

joint work of many minds obtained at moderate charges, whilst the young architect will receive the work necessary to his existence and the impetus to create and the enjoyment of fulfilment requisite to maintain his keen interest in the work.

The panel is already at work.

In a lesser degree the cities and towns in the region have followed the idea and formed societies for the amalgamation of the architects, and this has enabled the associated Architects to be called in to advise and prepare plans at once, where delays might reasonably, and indeed actually have, in other cases, occurred through varying opinions of the members of a local authority as to the choice of an individual architect.

HENRY E. FARMER,
Housing Commissioner, Region E.

NICHOLAS STONE.*

Walpole, by his "Anecdotes of Painting," it may be justly said, performed a service for English art similar to that of Vasari two centuries earlier for Italy, the difference being rather one of degree than kind.

The Walpole Society, which was founded in 1911 with the object of carrying on the work begun by Walpole, has already performed most valuable services on its earlier publications, and it is doubtful if a more opportune moment could have been chosen for the appearance of the seventh volume, which deals with the life and work of Nicholas Stone, the master mason whose monuments adorn many of our English churches.

The name of Nicholas Stone has always been closely associated with that of Inigo Jones, "who," says Walpole, "If a table of fame like that in the 'Tatler' were to be formed for men of real and indisputable genius in every country, would save England from the disgrace of not having a representative among the arts," but there is very little justification for this association, for although there must have been some collaboration between the one as surveyor-general and the other as master-mason, it is upon his private work that the fame of Nicholas Stone is founded.

The effect of a work of art must be influenced by its surroundings, and it is for sufficient recognition of this fact that the seventeenth-century work of this kind—in itself excellent—has nevertheless been the subject of harsh criticism, placed as it is in the midst of Gothic work with which it so little harmonises. Much of the work suffers, too, from a lack of refinement; a failing in the design rather than in the execution, which was for the most part faultless, as might be expected of a man holding a position of such eminence in his craft. Exception to this criticism must be made in favour of many of his wall tablets and cartouches, many of which might well serve as models, both as regards the lettering and the design, for the few who have in mind the erection of war memorials at the present time. Generally it would appear that Stone suffered through lack of discrimination, which in itself probably arose through insufficient study of the origin and growth of classic forms, a fault which characterises much of the architectural achievements of Michael Angelo, who often did not realise the real structural significance underlying the forms which he employed.

*The Note Book and Account Book of Nicholas Stone. By Walter Lewis Spiers, F.S.A., A.R.I.B.A. Edited by Alexander J. Finberg. Published by the Walpole Society.

The note books of Nicholas Stone, which form the main portion of the letter-press to this profusely illustrated volume, are of great interest, both as an historical and archæological record.

The account of the expenses of Nicholas Stone, Junior, and his brother Henry, in the "Cyt of Paris," contain some amusing entries: "H. for mending his spurr 103 souses. N. lost at tennis 19 souses. N. washing of linen 6 souses. N. Monday dinner 25 souses." Without any reservation, the Walpole Society is to be heartily congratulated on the production of a volume of great value and interest.

H. J. B.

COMPETITIONS OPEN.

Cosford Rural District Council Housing Competition.

Members of the Society of Architects are requested not to take any part in the above-named competition without first ascertaining from the society that the conditions have been approved by the Council.

September 29.—Incorporated Institute of British Decorators.

The Institute is offering two travelling studentships of £25 each for competition. The drawings must reach the Secretary of the Institute, Painters' Hall, E.C.4, not later than September 29, 1919. Further particulars may be obtained from the secretary.

September 29.—Bridlington: War Memorial.

The War Memorial Committee invite designs for a war memorial. Premiums £100 and £50. Sending-in day, September 30. Particulars from the secretary, 79, Quay Road, Bridlington.

No Date.—Liverpool: Reconstruction of Pierhead.

The Corporation Reconstruction Committee invite competitive architectural designs for the reconstruction of the pier-head site. Premiums of 1,000, 500, and 250 guineas are to be offered.

ENQUIRIES ANSWERED.

Qualifications for Building Inspectors.

METRIC (Bradford) writes: "Will you kindly give me particulars of what examination is held and the qualifications that are necessary to become a building inspector? I am at present an architectural assistant to a borough corporation."

—As to building inspectors, no specific qualifications are laid down, neither are any examinations held. A post of district surveyor in London is provided for under Section 140 of the London Building Act, which authorises the R.I.B.A. to act as an examining body. The R.I.B.A., from whom particulars may be obtained, also examines candidates desiring to qualify as building surveyors under local authorities. Examinations for qualification as an inspector of nuisances are held three times a year in various parts of the country by the Royal Sanitary Institute.

R.I.B.A. Examinations.

INQUISITOR (West Bromwich) writes: "Will you kindly recommend me the best books on the two special subjects required for the preliminary examination, viz., 'Geometrical Drawing' and 'Elements of Perspective.' Also, perhaps you will be so good as to give me a list of the books required for study in connection with the Intermediate Examination."

—For the Preliminary Examination, "Practical Mathematics, Geometry, and

Graphics," by Bates and Charlesworth; "Architectural Perspective," by F. O. Ferguson; or "Principles of Architectural Perspective," by G. A. T. Middleton, should contain the information which our correspondent requires. A thorough knowledge of "History of Architecture on the Comparative Method," by Banister F. Fletcher; and "A History of Architectural Development," 3 vols., by Professor F. M. Simpson, should equip a candidate for the historical subjects of the Intermediate Examination, if accompanied with certain additional information obtained by consulting "Architecture of Greece and Rome," by Anderson and Spiers; "Gothic Architecture in England," by Francis Bond; and "Renaissance in Italy, France, and England," by Professor F. M. Simpson. On the construction side, "Building Construction," 2 vols., by Charles F. Mitchell; or a work of the same name by Professor Henry Adams; "Stresses and Thrusts," by G. A. T. Middleton; and "Principles of Structural Mechanics," by Percy J. Waldram, should prove sufficient.

B.

GLASGOW HOUSING AND HEALTH EXHIBITION.

The Glasgow Corporation, who are promoting the Housing and Health Exhibition to be opened in the Kelvin Hall of Industries, Kelvingrove, Glasgow, on October 8, are leaving no stone unturned to make the show a highly successful one. The space available for exhibitors is being rapidly taken up, and before long the few remaining stands will have been allotted. It was the original intention that the exhibition would close on Saturday, October 25, but the committee of the Town Council who are in charge of the arrangements have acquiesced in the proposal submitted by a large number of exhibitors that the show should be kept open for another week. The Exhibition will therefore open on Wednesday, October 8, and close on Saturday, November 1.

The Local Government Board are taking a keen interest in the exhibition. They are fully alive to the important part the show will play in assisting local authorities in developing schemes of housing reform which they have on hand. The board, accordingly, have taken a stand which should prove an attractive one. A section appealing to all classes of visitors will be that of models of Glasgow slums. The "Second City," like all large towns, has got its squalid areas. During the last twenty years the Improvement Trust of the Corporation has done much work in cleaning out slums, but there is still a very large amount to be done. The extension of the confines of the city has added further areas which require the attention of the Trust and will demand attention at an early date. In addition to the models referred to, arrangements have been made by the management for aerial photographs of city slums being shown at the exhibition.

It is well known how great an interest their Majesties the King and Queen are taking in the housing problem for the working classes. The Executive Committee of the Housing and Health Exhibition are making a strong effort to get their Majesties to honour the exhibition with a visit. It was officially announced some time ago that the Royal Family would spend a portion of the autumn in Scotland. Edinburgh is to be visited, and it is thought likely that Glasgow will be included.

The Housing Movement

WEEKLY HOUSING RETURN.

The report on housing progress issued weekly by the Ministry of Health (in succession to the Local Government Board) states:

New housing schemes submitted to the Ministry by local authorities and public utility societies during the week ended July 5 numbered 227, a number which is again well above the average of preceding weeks. They bring the total number of housing schemes to 2,964, comprising nearly 35,000 acres of land. Of these 2,964 schemes forty-eight are promoted by public utility societies, the majority of which have been formed specially for the purpose of taking advantage of the Government's offer of money help for housing enterprise on co-operative lines. The promotion of further societies is indicated by inquiries received by the Ministry (numbering 335) from industrial firms, private individuals, trade unions, allotment societies, etc.

Reports from the Housing Commissioners and from local authorities, though far from complete as yet, show a considerable increase in actual building operations in progress. Among local authorities' schemes, work is known to have been begun in the case of more than 3,000 houses, and in public utility society schemes in the case of more than 600 houses. These figures are increasing from day to day.

Tenders for 1,200 houses in twenty-eight different localities give an average cost per house of about £630, or about 1s. 1d. per cubic foot. The maximum and minimum prices, respectively, were £765, or 1s. 2d. per cubic foot, and £421, or 9d. per cubic foot. The proportional cost of land per house varies considerably, of course, according to the district. The average cost taken over twenty-five schemes in different parts of the country was about £18 per house. The use by local authorities and others of officers of the Inland Revenue Land Valuation Department for the valuation of land for housing is increasing, with resultant economies which will be to the advantage both of the local ratepayer and of the State.

Special efforts are being made in a number of areas to obtain local loans for housing. Manchester, for example, is raising small loans at the rate of £20,000 a week.

Details of local authorities' schemes dealt with during the week are as follows:

Building Sites.

Schemes Submitted.—The number of schemes submitted by eighty local authorities was 225, bringing the total number of local authorities' schemes to 2,916. In 2,631 of these schemes the area is stated, and it amounts to 28,444 acres.

Schemes Approved.—Fifty-three schemes, promoted by thirty-six local authorities, were approved during the week. In all 839 schemes have now been approved, representing an area of over 13,000 acres.

Lay-outs.

Schemes Submitted.—Forty-two schemes were submitted during the week by thirty-four local authorities. Altogether 403 schemes have been submitted.

Schemes Approved.—Eight schemes, promoted by seven local authorities, were approved during the week, bringing the total number of lay-out schemes approved to 179.

House Plans.

Schemes Submitted.—Sixteen schemes, promoted by the same number of local authorities, were submitted to the Ministry during the week. The week's schemes represent 908 houses, and bring the total number of schemes submitted to 233, representing 14,851 houses.

Schemes Approved.—Seven schemes, representing 488 houses, were approved by the Ministry during the week. Altogether 139 schemes have been approved, representing 8,624 houses.

HOUSING SCHEMES.

Durham.

The Durham City Council have decided to apply to the Local Government Board for a loan of £600 for the purchase of six acres of land upon which to carry out a housing scheme.

Darlaston.

Several sites upon which to build houses have been approved by the District Housing Commission, subject to a satisfactory report being obtained from a mining engineer as to the advisability of erecting houses on two of the sites. The Darlaston Urban District Council have decided to enter into negotiations to acquire five of the sites.

Walton.

An expert in town-planning is to be employed by the Walton (Surrey) Urban District Council to lay out the land for the housing scheme. There will not be more than eight houses to the gross acre, and the architect will be authorised to disregard existing by-laws as to the width of roads, approaches, etc.

Wotton-under-Edge.

At a meeting of the Wotton-under-Edge Parish Council and Parochial Committee, Mr. A. V. Lawson, architect for the proposed new cottages, reported that under the new regulations only four cottages could be erected on the Bradley Street site, instead of eight, as originally intended. It was decided to hold the present scheme in abeyance, and to take steps to erect at least fifty workmen's dwellings. The members arranged to inspect possible sites with Mr. Lawson.

Sleaford.

The Sleaford Urban District Council have decided to erect twelve houses as a commencement of their housing scheme, and have invited the District Housing Commissioner to inspect the proposed sites. In connection with the County Council scheme for a joint isolation hospital in the Sleaford district, the Council approved the recommendation of the Joint Committee that a building be erected in conjunction with the Sleaford Rural and Ruskington Urban Council. It was urged that other authorities be invited to join the scheme, thereby reducing the charge payable by each. The Claypole and Branston District Councils are to be approached in this respect.

London County Council.

The London County Council's annual money Bill for regulating expenditure on capital account and the lending of money during the period April 1, 1919, to September 30, 1920, came before the Ways and Means Committee of the House of Commons on July 2. Asked for particulars of the £6,000,000 for housing, Sir Harry Hayward, the L.C.C. controller,

stated that the Council were to erect 20,000 houses, 10,000 of which they hoped to provide in two years. In addition there was £450,000 for acquisition of sites and £350,000 for clearances schemes. The Bill asked for £2,000 for completing the Holborn-Strand improvement, the total cost being £5,034,285. On an expenditure of £600,000 for the county hall, Harry Hayward stated that a new contract had been entered into and the county hall would be finished as quickly as possible. The increased cost of the unfinished part due to the delay, would be about 100 per cent. The extra cost would be more than £300,000. The Bill was passed for the reading.

Housing in Scotland.

At Dysart, Fife, Mr. Walter Alister A.R.I.B.A., is architect for the housing scheme at a remuneration to be fixed by scale by the Local Government Board. The Housing Committee at Wishaw, Lanarkshire, have asked three architects—John Steel, L.R.I.B.A., James Cowie and James Ross, to submit sketches of three, four, and five apartment houses, also of a flatted type of houses. Turrieff, the North of Scotland, has appointed Mr. Duncan, architect, who has gone over the plans with the Local Government Board. At Edinburgh the architects' plans for the lay-out of the sites at Saughton, Ward and Willowbrae Road, have been lodged and Sir John Burnet, Glasgow, acts as assessor.

South Shields.

The Housing and Town Planning Committee of the South Shields Corporation have had under consideration a scheme for the laying out of a portion of the Cleadon Park estate for the erection of dwelling houses. Designs and plans have been prepared, and the committee have decided to recommend the erection of 200 houses of the parlour and parlour type, 90 per cent. to consist of five-roomed houses and 10 per cent. of four-roomed houses, with a view to determining the proportionate demand for two types. It was decided that in the present scheme there should be no allotment, one playground, a site for an institute and a site for a school.

HOUSING APPOINTMENTS.

Mr. Frank H. Heaven, A.R.I.B.A., P.A.S.I., architect, of Aberkenfig, Glamorgan, has been appointed as first housing town-planning assistant under the Poppleton Urban District Council, who propose erecting some 1,600 to 2,000 houses.

Mr. D. O. Morris Roberts, of Farnham, has been appointed architect of the Crickieth Urban District Council for the carrying out of the municipal housing scheme. There were fifteen applicants for the position. The Tadcaster Rural District Council have appointed Mr. E. Fox, of Askern, Doncaster, architect for their housing scheme; the Howden Rural District Council have appointed Stephen Piper, Licentiate R.I.B.A., of Newcastle-on-Tyne; and Mr. J. Roberts, Pwllheli, has been appointed architect of the Llyn Rural District Council housing schemes. Mr. Rolfe is secretary to the Carnarvonshire Society of Architects. The council contemplate erecting 187 houses. Sir Hugh (Nanney) and Mr. Lloyd Edwards (Lancaster) have each given an acre of land

The Week's News from Far and Near

New Antrim Infirmary.

Plans have been approved by the Local Board of Guardians for the erection of a new infirmary at a cost of £137.

Resumption of Practice.

Mr. Martin Briggs, F.R.I.B.A., having been demobilised from the Army, has commenced practice at 11, Red Lion Square, W.C.1.

East Ham War Memorial.

The war memorial at East Ham is to be in the form of a hospital, costing over £1,000, towards which Sir Samuel Hoare has promised a donation of £2,000.

War Memorials Exhibition.

The Official Guide (Mr. Leslie O. Baker) is conducting visitors and is lecturing in the Victoria and Albert Museum Exhibition of War Memorials at 11, daily.

New Theatre for Leeds.

Leeds City Council have approved the plan of a site in the centre of the city for £100,000, to a syndicate which is to erect a theatre there at a total cost of £1,000,000.

Architectural Partnership.

Mr. Conrad B. Willcocks, A.R.I.B.A., and Mr. J. R. Greenaway, F.S.I., have entered into partnership and are practising under the name of Willcocks and Greenaway at 11, Fair Street, Reading.

Temporary Address.

Messrs. Mearles Engineering Company announce that, owing to the rebuilding of their present premises they are compelled to take temporary offices, and their new offices on and after July 4 next will be at 2, Cursitor Street, Chancery Lane, W.C.2.

Knighthood for Dublin Builder.

The Viceregal Lodge, Dublin, on July 13, the Lord Lieutenant conferred the honour of knighthood on Mr. Henry Hughlin, a Dublin contractor and architect, who devoted much time and energy during the war to the promotion of recruiting in Ireland.

Lea Valley Improvements.

Following on the raising of the embankment to guard against flood water entering the reservoirs abutting on Lea Bridge, the Metropolitan Water Board have commenced the building of masonry along the East London aqueduct across Hackney Marshes.

Bridlington Parade Extensions.

The Bridlington Corporation have instructed the borough surveyor to prepare plans of the proposed extension of the Prince's Parade and the widening of the Esplanade. In order to have jurisdiction over the type of property erected, they proposed that the Corporation should acquire additional lands, which would be used for building. Last year the profits of the Parade amounted to £5,000.

Nottingham and Derby Architectural Society.

The Nottingham and Derby Architectural Society, who include Lincoln in their province, visited Lincoln on July 3. The White Friars, High Bridge, the Bishop's House, and other buildings of architectural interest were noticed, and a visit was paid to the Cathedral and precincts. The guidance of Sir Charles Nicholson, F.R.I.B.A., Bart. After luncheon at the Castle and Bishop's Palace were visited, and Colonel Williams met the

party at the Guildhall, and explained the ancient civic regalia, which he had had arranged for their inspection. Hearty thanks were accorded to Sir Charles Nicholson, Colonel Williams, and to the President, Mr. H. G. Watkins, F.R.I.B.A., and to his brother, Mr. W. G. Watkins, A.R.I.B.A., for arranging the visit.

London War Memorial.

The memorial pylon to be erected in Whitehall, opposite the Home Office, will be 30ft. high, and bear the inscription, "The Glorious Dead." The memorial pylon has been designed by Sir Edwin Lutyens, while Sir Frank Baines, principal architect of the Office of Works, has designed the scheme of decoration in connection with the peace celebrations for Constitution Hill.

Concrete Cottages for Luton.

The Ministry of Health has sanctioned the acceptance by the Luton Urban District Council of a tender for twenty-four concrete cottages at £350 each. The total cost, including drainage, roads, and paths, fencing, water supply, and surveyor's remuneration as architect, is £9,500. Plans for another thirty-two cottages rejected by the Housing Commissioner after having been first of all approved by Local Government Board officials, have now been sanctioned by the Health Ministry.

Burton Court.

At the meeting of the Chelsea Borough Council on July 2 attention was called to the fact that preparations were being made to put up buildings at Burton Court which appeared likely to be of a permanent character. The Council adopted a resolution strongly protesting against Burton Court being occupied by permanent buildings. Copies of the resolution are to be sent to the Government, Sir Samuel Hoare, M.P., and the various societies which have supported the council in its opposition to the continuance of the occupation of Burton Court.

U.S. Contract to Rebuild Nancy District.

The rebuilding of the devastated Nancy district has been undertaken by the Vulcan Steel Company, of New York, which, it is announced, has signed a contract for the construction of roads, bridges, public buildings, factories, and churches destroyed by the Germans in and around the great French fortress. Associated with the Vulcan Company are the two contracting firms of MacClintic, Marshall, and Co., and MacArthur Bros. The sum of £50,000,000 is mentioned in the contract, but it is estimated that the price will eventually reach £100,000,000.

Irish Architects and Housing.

A Council meeting of the Royal Institute of the Architects of Ireland was held at Dublin, the President, Mr. W. Kaye-Parry, F.R.I.B.A., in the chair. A letter was read from the Royal Institute of British Architects explaining an arrangement under which professional assistance is being rendered in the Manchester housing scheme. The Council considered that the scheme would not apply to Irish conditions, and that the system adopted by the Dublin Corporation was preferable. The secretary, Mr. H. Allberry, reported the steps that were being taken to urge upon authorities the desirability of associating representatives of the profession with departmental officials, when the

qualifications of persons, who are not members of a recognised architectural society, and who may be employed on housing schemes, are under review.

National Factories for Sale.

The Disposal Board of the Ministry of Munitions are offering several national factories, all well equipped, in various parts of the country. Among them are three wood distillation buildings at Bideford, Devon; Longparish, Hants; and Coleford (Forest of Dean), Gloucestershire. These are constructed mainly of steel framing, with corrugated iron walls and roof and concrete floors, and used for the production of acetone, grey acetate of lime, tar, naphtha, charcoal, and other by-products. There is ample office and mess room accommodation; the lighting is electric, generated on the property; and there are private sidings connected with railways. Each of the factories will be sold by private treaty in one lot, on application to the Controller, Land and Factories Section, Disposal Board, Charing Cross Buildings, Embankment, W.C.2.

New Government Offices.

The site of a permanent home for the Pensions Issue Branch of the Ministry of Pensions, with a staff of 6,000, is being prepared near Uxbridge Road at Acton Vale. The building will release the Tate Gallery, Marylebone Town Hall, the Railway Clearing House, and eight or nine business blocks in Great Portland Street and premises in Baker Street. The Office of Works is considering a site at Millbank, facing the House of Lords, on which it is proposed to erect, for lease to the Government, six blocks of offices so that the temporary buildings in the parks may be removed. According to the plans of the architect, Major C. J. C. Pawley, the buildings will have 500,000 sq. ft. of floor space. A six-acre site with 1,000 ft. of frontage in Whitehall and the Victoria Embankment has been offered for building additional Government offices or a permanent home for the British War Museum. This is the original site of the Royal Palace of Whitehall designed by Inigo Jones. Major Pawley's plans for this building conform in some measure to the original conception of Inigo Jones, taking in at the western end the banquet hall next to the War Office.

R.I.B.A.

Building Industries Consultative Board.

At the second meeting of the Building Industries Consultative Board, which was held at 9, Conduit Street, on July 8, under the chairmanship of Mr. John W. Simpson, P.R.I.B.A., it was decided that a deputation should be formed to wait on the Right Hon. F. G. Kellaway, M.P., in order to ascertain the intention of the Government with regard to the building industry generally and more particularly with regard to the supply of materials. The next meeting of the board will be held on July 22, when the information obtained by the deputation will be laid before the members.

Central Consultative Board.

This board, which has been formed to bring local authorities and other promoters of housing schemes into touch with architects, held its first meeting last week. It has already had many applications from both the parties concerned, and has dealt with some 5,000 houses.

ARCHITECTURAL ASSOCIATION PRIZE DISTRIBUTION.

The annual distribution of prizes to the students of the Architectural Association School took place at 39, Bedford Square, on July 11.

In the course of his address the President, Mr. Maurice E. Webb, F.R.I.B.A., said:—

The school sent from past and present members some 260 men to the war. Many rose to positions of considerable responsibilities, and the following distinctions were gained: Two D.S.O.'s, twenty-four Military Crosses (two with bars), one Legion of Honour, and one Serbian Order of the White Eagle.

The year's work is chiefly remarkable for the success of the ladies—three of them are running neck and neck. Their drawings are as good as, if not better than those of many men in pre-war years. Perhaps they will not regard that as a compliment in these days of sex equality, but it is intended to be one.

It is, at any rate, a good omen for the future, when architects will be largely engaged on the domestic requirements of large numbers of small houses. It is in this work, I think, that the future of women architects lies, though I suggest—especially to the three ladies I have referred to—that as a start they are well fitted to make architectural perspectives in colour for their male brethren, a not unremunerative and very interesting occupation, and one well suited to those who can use their brush with the sense of architecture as these ladies can.

As a first step to widening the education given here, we propose next session to open our schools to all who seriously intend to make their living in the arts and crafts connected with fine building, and not to architects alone. We are extending our course from three years to five, the last two years for advanced students who can afford the time to take it. Those who do so successfully will be granted exemption from certain portions of the Institute Final, an important concession for which we have to thank the Board of Architectural Education. This advanced course will consist of five main sub-divisions, under the supervision of different masters with acknowledged authorities on each. The sub-divisions, which may be taken separately, are: (1) Housing and commercial planning; (2) modern construction; (3) decorations; (4) business methods of organising work and offices; (5) advanced design. In each case it is intended to include practical experience on works and in offices.

All should, I think, take the section on housing. In the Housing question alone, the first great post-war opportunity is already opening for architects to be of use to the State. Three hundred millions of pounds are to be spent on housing during the next few years in Great Britain alone. And those of you who care to study this question, with the ideals in front of you that I have spoken of, will be able to take a useful part in it.

The authorities are, I understand, anxious to distribute this work as widely as possible. The Association has put forward a suggestion which I hope will be acted upon, and is under consideration now by the Consultative Board, that a small share should be given to trained students under proper direction. It is up to you to support us by qualifying fully for such confidence.

We are reopening our atelier next session, and hope for a great improvement

in this branch of our work—a necessary extension of the earlier day school training—from a proposal which we have made to the Royal Academy in connection with it.

I am not at liberty to say more about this proposal now, but one of our past-presidents is, as you know, president of the Royal Academy, and he is coming here with Sir Reginald Blomfield to-day to study quietly the work of these schools, so that we may be sure that this proposal is receiving their very careful consideration.

With regard to the scholarships and prizes list, it is sufficient for me to mention now that an entrance scholarship worth £60 per year, tenable for the year, but renewable for three years, will be offered annually. Another of similar value, and on the same terms for the new two years' advanced course, will be open for competition for the ensuing session.

An overseas scholarship on similar lines is proposed, renewable for three years, given to the Dominions in rotation in a series. If this scholarship is found of use, it is hoped that the colonial Governments may fill up the gaps necessarily caused by the rotation system. This will also be open for competition this year, and details will be announced shortly.

We hope before the new year to have a series of well-built, well-lighted, heated, and convenient series of studios at the back, with a well-formed clubhouse in the front, where not only students, but members of the Association will be able to enjoy our library, with the necessary adjuncts in the shape of reading, writing, and luncheon rooms.

A hostel is also proposed for students and young architects in practice, whose homes are not in London.

We hope next session that the various clubs which used to flourish here before the war, such as the Camera Club, the Sketch Club, and the Athletic Club, will be revived and supported by those in the school.

Finally, mix your work and games, and in your wanderings through England do not confine your work to any one phase of English architecture, any one period of English Renaissance, but let your pencil trace and your mind absorb at least some of our beautiful work, and I am sure you will come back refreshed and inspired anew for the work that lies before you here.

Mrs. Maurice Webb then distributed the awards, the full list of which is as follows:

Entrance Scholarship, tenable for one year in first-year course: First Year: First prize, Scholarship, tenable for one year in second-year course, Mr. D. Petrovitch; second prize, "Howard Colls" Studentship, £15 15s., Mr. F. N. Chamberlain; third prize, books, value £5 5s., Miss H. B. Robinson; General Progress Prize, books, £2 2s., Mr. C. G. C. Hyslop; art subject prizes, books, £2 2s., Mr. K. E. Black; books, £1 1s., Mr. R. J. Masey; mentions, Mr. C. Dunch, Mr. P. I. B. Harland, Mr. J. E. Sterrett. Second Year: First prize, Travelling Studentship £26 5s., Miss E. G. Cooke; second prize, books, value £10 10s., Miss R. Lowy; scholarship, tenable for one year in third-year course, Miss W. Ryle; General Progress Prize, books, £3 3s., Mr. A. S. Whitburn; Art Subject Prizes, books, £2 2s., Miss R. Lowy; books, £1 1s., Miss W. Ryle; books, £1 1s., Mr. A. S. Whitburn; books, £1 1s., Miss E. K. D. Hughes; mentions, Mr. A. Blomfield, Mr. W. A. Devereux, Miss I. Graves, Mr. C. N. Hollinshead, Miss E. K. D. Hughes, Mr. W. Percik. Third Year: First prize,

"Henry Florence" Studentship, £50, Mr. G. G. Clark; second prize, books, £15 15s., Mr. H. L. Massey; third prize, books, £10 10s., Mr. H. L. Curtis; General Progress Prize, books, £5 5s., Captain A. Stephenson, A.I.F.; special mention (short time only in school), Mr. C. Greenwell, Mr. J. D. Moore; mentions, Mr. E. W. Armstrong, Mr. A. M. Bartley, Mr. R. C. Blampied, Mr. M. K. Driffin, Mr. A. S. Furner, Mr. F. E. Greenish, Mr. H. C. Grierson, Mr. R. B. Hamilton, Mr. C. M. Masters, Mr. E. S. C. Millar, Mr. J. G. Warwick; "Henry Jarvis" Scholarship, value £40, Mr. R. K. Thomas; second prize, books, £10 10s., Mr. L. Irwin; mentions, Mr. L. Claydon, Mr. C. M. Masters, Mr. L. Wyatt; Alec St. hope Forbes Prize, best colour work in school, £5, Miss R. Lowy.

TRADE AND CRAFT.

"Twin" Boiler Heating Apparatus

The following brief description of "Twin" Boiler hot-water apparatus incorporates several necessary corrections that were made in a delayed proof of the article entitled, "Hot-water Supply Simplified and Improved," which was printed on pages 69 and 70 of last week's issue:

The Falkirk Iron Co.'s apparatus has its essential feature a "twin" boiler—it is to say, the central washing boiler is surrounded by an outer casing or water jacket, which is in effect a circulating cylinder, containing hot water that can be drawn off to feed a bath, or to meet other domestic needs; and as water is drawn from it, the cylinder fills automatically from a cold-supply cistern conveniently placed. A steam escape is fitted in the rim of the boiler, and a draw-off tap fitted to empty the washing pan.

"Twin" boiler can be heated from its grate—the familiar "copper-hole"—independently of the range fire. In other words, when the kitchen fire is not wanted the "Twin" boiler is used as an independent unit. The "Twin" boiler is designed to stand in an ordinary scullery, and jacket is connected by flow and return pipes to a high-pressure boiler at the bottom of the kitchen range or living-room grate. Although at the company's showrooms, Craven House, 119, 121, and 123, Kingsway, London, W.C.2, the "Twin" boiler is seen working in conjunction with "Compax" combination converter grate, which secures the maximum heating efficiency from the fuel consumed. The type of grate is not essential to the apparatus, which will work with any efficient type of kitchen range or living-room grate connected to a high-pressure boiler.

Many other interesting exhibits related to housing are on view at the showrooms in Kingsway, where, we are sure, architects and others interested will be cordially and courteously welcomed.

Kitchen Floors.

Kitchen floors made of water-proof cement are very durable, and are pleasing in colour by selected pigments which are obtainable from all druggists and colourmen. For instance, four parts of red oxide of iron (ferric oxide) mixed with eighty-six parts of fine ground Portland cement, produces an effective red, if it is used in a mixture of three parts of washed sand to one part of cement and 2 per cent. of Pudlo. A list of suitable colours, with proportions for use, may be obtained from Messrs. Kerner-Greenwood and Co., Ltd., Kings Lynn.

The Architects' Journal
Wednesday, July 23, 1919

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Volume L. No. 1281

THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



FOUNTAIN OF THE VIRGIN, ROME.

(From the engraving by Palmucci)



PALAZZO SALEM, BOLOGNA.

THE ARCHITECTS' JOURNAL

Joint Editors: A. E. RICHARDSON, F.R.I.B.A., and J. FINDLAY McRAE.

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Peace and Unity

It is the custom to-day to look forward. Indeed, the wisdom of directing one's gaze in that direction cannot be gainsaid. And yet, 'twere well, now and then, to illumine the future with certain rays from the past. The architectural profession throughout the world finds itself perplexed as never before. In common with all other vocations it feels the impact of war. It discerns a certain upsetting of methods, and it believes that further upsettings are on the way. Generally, it attributes all of these annoyances to the events since 1914. Some take the point of view that war acts as a great germicide or cleansing agent, purifying human affairs through the terrible ordeal it inflicts. Others, on the contrary, only see that war has merely accelerated the ever-present purifying process by compelling men to recognise their weaknesses under the stress of a threatened national extinction.

In England, as in the United States, and in France as well, the war experience of the architect, in so far as his recognition and employment by Government was concerned, is usually cited as a humiliating confession of the inferior position that architecture has been able to secure for itself in the twentieth century. But a careful and unprejudiced analysis of this assumption is likely to afford convincing evidence of two things, one the corollary of the other. First, that architecture had, from the beginning of the war at least, come to be reckoned as primarily a function of æsthetics; second, that as the connection between æsthetics and war was not then, and is not now immediately apparent to either the authorities in charge or the public at large, the fact that architecture was not taken into account in the scheme of war preparations is quite easy to understand. This is a psychological condition for which either the architect is at fault for having proclaimed himself the votary of art, even of fine art, or for which the State is to blame for having allowed its citizens to be so poorly educated that they were without any intelligence whatever, on a question affecting the physical attributes of either a building, a street, a town, or a city. But in any event, a fairly clear case can be made out by those who contend that the treatment meted out to architects by Government during the war is in no sense a tremendous slap in the face as so many pretend. The facts need to be carefully ascertained and weighed before judgment is taken, and in the United States at least the Post War Committee of the American Institute of Architects is asking for a suspension of judgment in such matters until it has assembled all the data available and presented it in such form that just conclusions may be drawn from it.

In England, it appears that the practice of utilising the architect, as the war went on, differed not very considerably from the practice in the United States. As the huge governmental organisations were constantly expanded, and as constructional work developed in

both extent and character, architects were gradually drawn into the personnel of these vast bureaus or departments. The tendency to bureaucracy, under the stimulus of this particular phase of war experience, appears to have left a profound imprint in England. Public work in that country appears now to have become the coveted prey of those bureaus and departments which, organised primarily for purely war functions, are now so in love with their job as to desire ardently that they be continued ad infinitum. In the housing programme, for example, the struggle appears to be sharp, and the architects of England seem to be confronted with the bureaucratisation of the whole project. Nothing more disastrous to the nation could possibly be imagined, for of all the horrors of the now prominent housing problem, what could be worse than the adoption of a standardised line of houses, to be set down in wild profusion throughout England, the chief consideration being the lowest possible rate with which escape from the now intolerable housing shortage in England may be made?

Yet, in dwelling upon this picture of desolation and tawdriness, one must not fail to take into account certain lessons which have been learned as a result of Government's constructional experience in war. In the United States, at least, the housing work carried on by the two principal Government agencies, the Department of Labour and the Shipping Board, instilled clearly into the minds of all those professionals who participated, the knowledge that only through intimate co-operation from the very beginning could a result be obtained which would approximate the ideal solution of any problem.

In other words, compulsory co-operation whereunder each profession subordinated itself to the end desired, developed and emphasised the desirability of a much more intimate relationship than had in the past existed between the several professions which occupy themselves with one or other of the phases of the housing problem. There is a good deal to be said on this score, and architects will do well to remember that the answer to the incompetence and slovenliness of bureaucracy will be found in a closer rapprochement of the professions having to do with construction and physical planning. They must cease their antagonistic attitude and discover themselves to themselves and to each other, not as warriors determined upon the monopolistic capture of all building commissions but as co-workers in a field of service where the public to be served will pass final judgment, and in which verdict it probably will be nearly right.

But with these very general conclusions, drawn more or less at random from war experience, the question still arises as to how the architectural profession is to gird itself more effectually for the combat ahead. In the United States, the profession is represented by one parent body, the American Institute of Architects. Its

Post-War Committee is now engaged upon a comprehensive collection of facts and opinions, to the end that it may eventually make certain recommendations. In England—and I speak only of those two great English-speaking nations with which I am most familiar—one seems to be forced to the conclusion that unless the profession can accomplish that long-discussed unity toward which it has striven at intervals, it will find itself ill equipped for the future. Surely, if the war has given us any lessons at all, it has pointed out the utter fallacy of a divided council and a separate authority. Under such an arrangement, effort is cancelled before it is made. Governments cannot be expected, by the very nature of their being, to give preference to either one of two or more societies, each of which claims to be representative of a profession. It is reasonable for Government to assume that if a profession is divided among itself as to what is the best course to pursue, it had better be left alone to discover some basis of common ground.

Specifically, one may at least refer to the registration question in any discussion of the English problem. Yet what are the facts, reduced to the simplest form of equation? I do not pretend to make out a case for registration, even though experience does seem to demonstrate that it has almost universally operated to raise the standards of professional achievements and performance in architecture. But against that advancement we must wait and watch to see that those in charge of registration do not use it as a monopolistic club. We do not want any professions limited by those who are carrying them on, as a means of protecting their income. We do want professions limited, if it can be done, to competent practitioners.

But a registration law cannot be made retroactive. No Government will confer the right to the title of architect to any special class, nor will it disbar from the conduct of building operations any of its citizens who have established themselves in the business or who have pursued the calling as a method of livelihood, no matter whether they call themselves architects or anything else. It will undoubtedly, under proper restrictions, confer some sort of distinguishing title by which the public may know that the bearer is an architect who has passed the Government's educational standards, leaving the man who merely calls himself architect to secure what employment he may from those who desire to buy that kind of service. But in the long period which must elapse ere the established incompetents and usurpers can be weeded out, under the Registration Act the competent man must submit to being herded, in the lists of registered architects, with those whom he knows to be charlatans. Is it not the fear and the loathing of this unavoidable condition under the operation of a Registration Act which has dissuaded so many architects in England from the thought of that professional unity around which the whole question of registration has seemed to revolve these many years? And yet the longer the operation is deferred, the more serious it will be when it does have to be submitted to, while, in the meantime, incompetence multiplies, in spite of every effort to the contrary, and the profession becomes more and more the prey of those hangers-on who can manage to pick up a living by pretending, since the Government throws no restrictions whatever in the way of whoever desires to practice architecture.

One offers these considerations the more boldly in view of the insistence of the problems which now demand solution. It seems clear, now that the three French architectural societies have united, that unity will henceforth be prerequisite to any concerted and effective effort for the advancement of the profession. Nor should the principle of unity be allowed to cease and deteriorate with national boundaries. All civilised countries have their architectural organisations; all of them have their problems; they struggle on more or less in isolation and with an apparent unconcern of what their brethren in other lands are doing. Yet their fundamental problems

are alike. They may differ in detail, as manners and modes of life differ, but at the bottom there are elementary questions of education, fees, competition, advertising, and the like. In none of these things are architects of any country abreast of the times—in reality to be really abreast one should be ahead in these days, rapidly do changes occur—and the whole history of architectural organisations reveals the inherent structural defects of their composition. They succumb to all enemies of organisational life, and continually lag behind the times in which their members live and practise, struggle for recognition and existence. This is a bare fact, but it is too true to be left unsaid.

More than that, it is the tendency of organisations to grow into an attitude of mind where the organisation assumes a greater importance than the idea for which the organisation was formed. Selfish interests of the members creep in to obscure the larger issues. Men become ultra-conservative as they band themselves together. There is an increasing reluctance to disturb any time-honoured custom or regulation. Things that once served their purpose well become outworn without having been fact discovered. The world does not progress through the efforts of organisations. It is dragged along by courageous individuals who refuse to have their energy and intelligence smothered by creeds and dogmas, or rules and canons. The history of every organisation reveals this type of struggle, and illustrates how difficult it is to move a large body any great distance at a time.

But if there can be set up an international unity of architectural effort, under which both architects and their organisations in all countries may receive the stimulus and the inspiration of the thought and action of their fellow practitioners, whether working as individuals or as organisations, then there would seem to be a fair basis for prophesying that architecture had an excellent chance of becoming a great department of human service; for it seems almost unnecessary to add that only as such is it likely to find its place in the life of the future. As a mere art, practised for the amusement and the personal conceit of a group of dilettanti, its days are numbered. As a service which shall contribute to the physical betterment of all forms of communal life, it has a wider field before it than any on which it has ever fed.

Through unity—local, national, international—the profession can strengthen its own position in every direction it can gain added prestige for each country by the prestige of its whole accomplishment throughout the world. The success of one organisation in solving a particular problem, whether it be in education or in coping with Governmental authorities, will be of help to all the others. In a word, architects must cease to lead a monachal life and come out into the world as human beings, as part of the whole play and not as pedestal superiors demanding recognition. In union with each other, they will find strength; in union with life as it is lived and played on the stage of to-day, they will find the greatest of pleasures. The world needs them sorely, yet it knows not how to use them as it would.

CHARLES HARRIS WHITAKER

[Mr. Charles Harris Whitaker, as editor of "Journal of the American Institute of Architects," enjoys exceptional opportunities of surveying the field of architecture in his own country, and a recent visit to ours has to that extent enlarged his experience and increased his data for philosophical generalisation. For the opinion he expresses we are, of course, not responsible; but no disclaimer is unnecessary seeing that the article is signed and that Mr. Whitaker expresses himself with as much courtesy as grace. His observations on bureaucracy of vital interest in this country at the present moment for there is considerable anxiety lest it should take a malignant form and remain with us as a chronic affliction; but still greater importance will attach to his ably-reasoned plea for unity in the profession and fortiori, in the whole industry of building.—EDS. A.]

Notes and Comments

The Street Decorations for Peace.

CONCERNING the street decorations for peace one's worst fears have been realised. To say that they were utterly unworthy of the occasion would be high praise compared with what we actually think about them. Certainly the Mall, with its two rows of shapely pylons (of which, by the way, excellent though they were, there were about twice too many), its festoons, and its trophies of banners or pennons, made a very fine show; but, elsewhere, generally speaking, the red-line and penny-flag motif prevailed, its dreary monotony relieved, if at all, by little else but the inextinguishable and excusable "Venetian mast," as the camouflaged scaffold-poles been humorously designated. What our Allies thought of when they saw how poor a figure we cut as decorators one could rather not conjecture. They are welcome, however, to spise the tawdry and contemptible display as much as they please, and we will hasten to assure them of our most sympathetic concurrence; but the pity of it is that they can hardly be carrying away with them the impression that we were able to do better. For to them it will be utterly inconceivable that on the greatest celebration in the world's history we would willingly allow ourselves to sink to the lowest depths of decorative depravity to which London has yet descended. Naturally, therefore, they will assume that we are a nation without artists, or that having artists we have been too mean and too stupid to employ them to the extent that the occasion so fully warranted. Whatsoever artistic feeling was manifested (at rare and refreshing intervals it was) made but a drop in the ocean, and served mainly to emphasise the general welter of inanity. Our point is that, at least as regards the central pageant within which the pageant moved, the decorations should have been centrally schemed and controlled by a select panel of architects and other artists, and that this step should have been taken months ago. In that case our great processional streets might have left on our guests an indelible impression of dignity, instead of leaving them bewildered by the evidence that a race of proved nobility should be content to have it expressed only in paper roses. And the pity of it is that millions of our brave gobe-mouches have intensely admired these paltry vagwags, and the lay Press has industriously stimulated their taste. At the time of writing we had had no opportunity of seeing the cenotaph to "the Glorious Dead"; but the names of Sir Edwin Lutyens and Sir Frank Baines, who are said to have been associated in its production, are an assurance of noble design and appropriate decoration.

The Forward Movement in Architectural Education.

The important developments outlined in Major Maurice E. Webb's speech at the prize-giving of the A.A. Schools last week would have been commented upon immediately if time had allowed. One's first impression of them is that they certainly indicate a bold forward movement of the right sort. First, the actions of the A.A. Schools are to be extended; they are to be open "to all who seriously intend to make their living in the arts and crafts connected with fine building, and not to architects alone." This realises a hope that the writer of these notes has long cherished, and has sometimes ventured to express—that artists might somehow and some day be found of widening architectural education by including in it the arts and crafts connected with architecture. Further, we have often urged the desirability of bringing into closer touch the various units of the army enlisted under the flag of architecture. We are therefore naturally gratified to believe that these dreams are now on the point of realisation. Personal gratification, however far it may be removed from mere vanity, is an infinitesimal matter compared with the far-reaching consequences that seem to us to be certain to accrue from the sweeping changes that have been inaugurated. We are convinced that those changes are in accordance with the spirit of the times, and that they have been carefully calculated to meet opportunely the new conditions. Architectural education will not only admit of a freer intermingling and a more effectual exchange of ideas between artists of various persuasions who have been hitherto kept too widely asunder, but will give the student larger opportunities of personal readjustment. Supposing he discovers that he has made a mistaken choice of a career, it may be possible for him to find "a better way" without going outside the profession, or, indeed, without leaving outside the hospitable doors of the A.A. Schools. If, for example, the man who had entered as an architect finds that his temperament would better befit a decorator; or if the youth entered as a decorative artist discovers before it is too late that he is a heaven-born architect; then, we presume, it will be no more difficult to effect the change than it will be for any versa-

tile youth who so desires it to attain to more or less of mastery in all the five sub-divisions that are now to be open to him; or he may specialise intensively in any one or more of them—housing and commercial planning, modern construction, decoration, business methods, or advanced design. Hitherto it has been, we have always felt, a serious defect of architectural education that it did not recognise diversity of type, but was a little procrustean, subjecting the sensitive artistic temperament and the hard-headed practical mind to pretty much the same kind of training. The new curriculum seems to be in a fair way to make due allowance for this diversity of gifts; wherefore it not merely democratises—it humanises.

Conversion of Country Cottages.

Many country cottages are being converted from roughness to refinement. Their sanitation is being made perfect, and they are being "fitted with all modern conveniences," as the auctioneering phrase goes. It is not at all difficult to divine the reasons for this tendency. Owners of attractively situated cottages formerly occupied by labourers—and more especially by fishermen—perceive or anticipate two new conditions which can be made to conduce to profit, or which, on the other hand, may result in loss if the present opportunity is allowed to slip. These new conditions are—that the well-to-do, being anxious to reduce their establishments, are therefore content to dwell in cottages, provided these are made comfortable for them, and that national housing will ultimately provide for the labourer and will leave the old-fashioned cottage on the hands of the owner, who consequently, with the astuteness of his class, is adapting the country cottage to the needs of a different type of tenant. Whether this movement is likely to spread sufficiently to modify at all considerably the pre-war classification of house-dwellers is an open question that is obviously of first-class importance to those architects who, specialising on domestic work, are rather anxious to know whether the general run of it is likely to be much smaller than it was before. Probably it will be, and probably the reported increase in cottage conversion is merely symptomatic of the broader generalisation that, the cost of building having gone up, and the need for all-round economy having risen simultaneously with it, a smaller scale is very likely to be commonly adopted. Yet one must not lose sight of the newly rich, who, like the painter in "Punch," is "slappin' it on lavish." But it may be taken for granted that, as a general rule, the size of the middle-class house will be inversely as its price, and the plutocratic profiteers who are refitting old cottages are hardly numerous enough to redress the balance. Those who are dividing middle-sized houses into small flats are rapidly becoming wealthy; and, to give them credit, they are meeting a rather desperate need of the town-dweller of the lower middle classes.

The Housing Bill in the House of Lords.

The Housing and Town-planning Bill has passed through the House of Lords without material damage; and, indeed, it seems to have derived some slight improvement—as when, for instance, on the day of the third reading—Thursday, July 17—the Lord Chancellor passed an amendment deleting from Clause 1 the requirements that with regard to each scheme there should be submitted to the Local Government Board "the total estimated cost of the scheme; the estimated rent obtainable for each house or group of houses in the scheme; and the estimated economic deficit resulting, and the portion of that deficit to be charged upon the rates." These provisions obviously smacked too much of the Red Tape Department to be permitted to remain as occasions of delay and obstruction, and one is glad to see them ruthlessly brushed away. The Marquis of Salisbury's amendment requiring that the houses proposed to be built "should be of suitable construction, and that the natural amenities of the locality should not be unnecessarily injured," looked inoffensive enough to be accepted, as it was, on its face value, although unsuspected dangers may possibly lurk below its smooth surface; but Lord Downham's motion to leave out Clause 44, making it compulsory on local authorities to adopt a town-planning scheme without the previous holding of a local inquiry, and without any financial aid from the Exchequer, was withdrawn, Lord Salisbury remarking rather plaintively that "It was really necessary that town-planning should have a great forward movement at the present time." With respect to housing, Lord Downham was much to be preferred in his chrysalis stage as Mr. Hayes Fisher; for his attitude towards the Housing Bill in the House of Lords would be very difficult to reconcile with his splendid advocacy of national housing when he was in the Lower Chamber.

A Peace Pageant of the Thames

By CROSSLEY DAVIES

A PEACE Pageant of the Thames is to be held in August. According to details already published the King is to head the procession in the Royal barge.

The plans for and designs of the pageant are in the hands of the League of Arts. This is a new body with the praiseworthy aim of drawing the Arts and the people into closer touch. They deserve all encouragement. It is an undoubted achievement to obtain from the authorities the direction of a public pageant.

So much has yet to be done in this field that this breaking of new ground gives rise to real hope of something better and more comprehensive. If it leads to the consultation of our best artists by Government Departments and other public bodies on all occasions when art has a right to have a voice in the matter it will mean a momentous change, and a change most decidedly for the better.

For that reason we are grateful to the League of Arts. The river pageant will undoubtedly be finer than if it had been left to the care of an official committee alone. Yet when all this has been said I hope it will not be regarded as ungracious to add that it came as a surprise to some of us that the League did not consult the one artist in London supremely fitted for the task. Mr. Brangwyn's sketches, some of which have been reproduced in this Journal, add point to the regret. These designs were made for a proposed water pageant at Hammersmith which Mr. Brangwyn had offered to design. Unhappily, it was found there would not be time to collect the money needed and get the decorative work done as well. It was the suggestion of a member of the Council of the League of Arts that led Mr. Brangwyn to approach the Borough Council. How much better would it have been had the League asked him to design the bigger scheme. Had they done so, I am sure we should have had the finest pageant seen on the river for centuries.

Mr. Brangwyn stands alone among British artists in his sense of design and decoration. His knowledge of ships and shipping and of the river and river pageants is one few, if any, modern artists can equal. His mastery of colour is supreme. In all other countries Frank Brangwyn is acclaimed as one of the chief figures in British art to-day. No one who knows will

deny that he is the man to whom the design of the pageant should have been entrusted.

The Thames has been neglected too long. It is full time that London paid her just tribute to the river that has made her. The pageant gives her the opportunity. Let us see to it that the tribute is handsomely paid. To the Thames the City largely owes its supremacy in commerce. Time was when the citizens recognised their debt.

In the Middle Ages the Thames was London's greatest highway. There was a great traffic between the Court and the City. It went by way of the river from London Bridge or Blackfriars to Westminster. The King and Queen had their Royal barges. The Lord Mayor and the great City guilds used to go in procession up the river. Their State barges were works of art. The river in those days was a gay and busy thoroughfare. There as nowhere else was the life of the capital fully represented. Its story is one of pomp and pageantry, of trade and of tragedy. It was the first road our Sovereigns took on their way to Coronation. It was the gateway of trade. It was the last road along which traitors passed to their doom. The secrets of the Thames are the secrets of half the mysteries of London. It is one of the homes of English history.

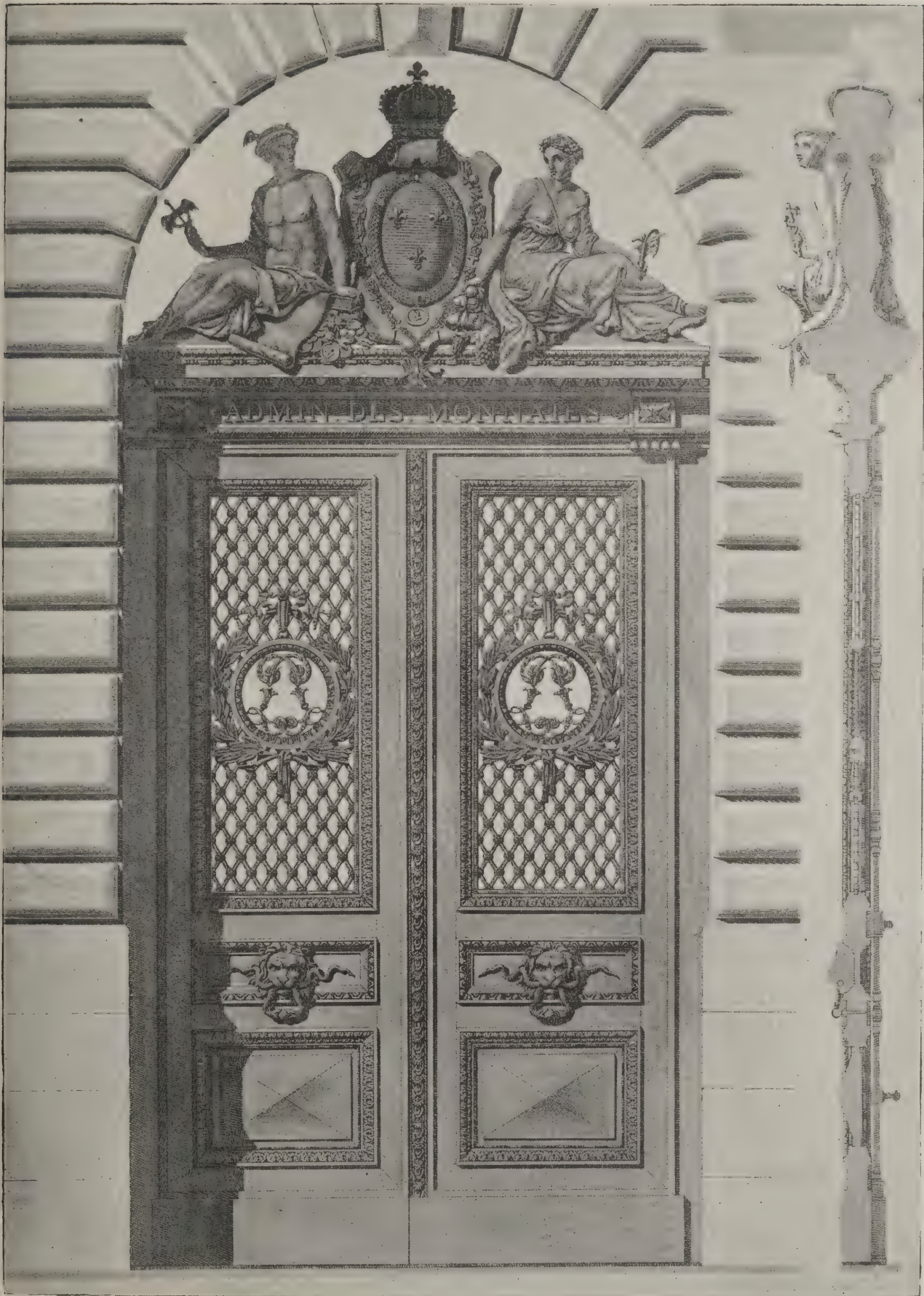
The first water procession on record, according to Stow, took place in 1450. The new Lord Mayor, John Norman, rowed that year by water to Westminster to take the oath. "He caused a barge to be made at his own charge," Stow writes, "and every company had several barges well decked and trimmed to pass along with him." This was not the first time that State barges had been used for the Grocers' Company, as their accounts for 1436 mention payment for the hire of barges to attend the Sheriff's show.

One of the greatest pageants graced the progress of Queen Anne Boleyn from Greenwich to the Tower for her coronation in 1533. The Common Council ordered the Haberdashers, one of whom was Lord Mayor, to prepare a barge for the bachelors, "garnished with banners like as they use when the Mayor is presented at Westminster." All other crafts were also commanded to prepare barges and to decorate them with their banners, and also "to decke them with targets, by the sides of



FIRST PRESBYTERIAN CHURCH, SANTA BARBARA, CALIFORNIA.

ROLAND F. SAUTER, ARCHITECT.



HÔTEL DES MONNAIES, PARIS: CHIEF ENTRANCE.

arges, and to set up all such seemly banners and bannerets they had in their halles, or could get to furnish their said es; and every barge to have minstrels." The Mayor and cil were all in scarlet. There were fifty barges in the procession. In a boat in front of the Lord Mayor's barge a great red dragon, continually mooving and casting wild and round about it "stode terrible monstrous and wilde casting fire and making hideous noyse." The Lord or's barge was hung with rich cloth of gold and silk, decks, ards, and the top castles. "At the foreship and the sterne two great banners rich beaten with the armes of the King he Queene; and on the top castle also was a long streamer beaten with the sayd armes; the sides of the barge were all of flags and banners of the devices of the companies of rdashers and Merchant Adventurers, and the lassiters or were hanged with innumerable pensels, having little bells e endes, which made a goodlie noise and was a goodlie wawering with the wind; on the outside of the barge were ten scutcheons, in metall, of the armes of the King and ne. . . which scutcheons were fastened on the clothes of and silver hanging on the deckes."

Another boat, on the left of the barge, contained a symbolical p. In it was "a mount and on the mount stode a white on, crowned upon a roote of golde, environed with white

roses and red, which was the Queene's device; about which mount sate virgins singing and playing melodiously."

The Queen was escorted by numerous other barges, "of manie noblemen . . . everyone in his barge." So they passed to the Tower, "minstrels playing continually" and arrived amid "diverse peales of guns."

That was how in the gorgeous sixteenth century they managed a river pageant. How should it be done to-day? It should certainly tell, as far as it can be told, the story of the river. The great State barges of earlier days should have their place. The Lord Mayor and the City companies should be represented. That at least is obvious. There should be music and minstrelsy and symbolical groups. Motor-boats and launches could be disguised as mermaids and tritons. Seahorses, too, with the exhaust used to blow steam through the nostrils. Father Thames might easily be shown drawing the Lord Mayor's barge. It would not be difficult in skilled hands to convert a motor-launch into the god of the river.

The bridges and river-banks could be decorated, but decorated so as to give their finest effect to the spectators in boats. Such a pageant is best seen from the surface of the water. Inigo Jones would have revelled in it.

In a master's hands it would be an impressive and inspiring spectacle.

Town-Planning, Housing, and Traffic

THE following is a summary of the evidence given on July 9 by C. B. Purdom, secretary of the Garden Cities and Town Planning Association, before the Select Committee of the House of Commons on London Traffic:

The main problem of London traffic is that of bringing cars to and across London to their work. It is this kind of traffic that is the most difficult to deal with and the least removable; it is this traffic that is a dead waste to the individual industry, and to the community at large; and it is for this traffic that a permanent means of relief is required. It is generally assumed that the problem is to be solved by the creation of new arterial roads and by increasing and speeding up systems of mechanical transport between the centre and the suburbs. Too little consideration has been given to the means of reducing the needs of passenger traffic by the co-ordination of residential and industrial development.

We believe that a large part of the traffic difficulties of London are caused by the over-centralisation of industry and commerce and the lack of system in the development of the suburbs. No permanent solution can be found in any scheme of improvement not based upon a full consideration of the developments of both industry and residence. We agree that roads, tramways, omnibuses, tubes, and surface railways must be co-ordinated throughout Greater London and the surrounding area. But unless this is done in conjunction with the development and planning of the area for residential and industrial purposes it will be ineffective.

The present state of the traffic problem arises out of the over-development of London. The movement of the residential population from the centre to the outskirts, with which the increase of commerce and industry in the suburbs is familiar, has been accompanied over a long period by the increase of commerce and industry in the suburbs. This has brought about a separation of working and residential areas, with the result that more and more of the working population have to pass twice daily between the centre and the suburbs. Each time that a new residential area has been brought into touch with the centre by means of an extension of the tube railways the traffic congestion at the centre has been increased.

Most of the discussions of London traffic proceed on the assumption that the past development of London must inevitably continue. We believe that assumption to be erroneous. We believe that the spreading of population in the outskirts, and as a result the difficulty of acquiring industrial sites in the centre. The inner and outer suburbs have suffered a steady invasion by industrial undertakings, and large and small factories are to be found all over Greater London. This industrial development has extended far beyond the present metropolitan boundaries. We believe that this new tendency of industry to spread (which is not peculiar to London) is a sign of important economic forces which will profoundly affect the course of the future development. Left to itself it has added to the confusion of the traffic. Factories have been established without regard to their location, which has produced (among other things) an enormous amount of cross-travelling—for example, workers at engineering works at Willesden reside in Holborn, and other places in the inner area, and men living in the suburbs go to work as far as Tilbury.

5. We suggest that the growing tendency of industry to establish itself outside the centre should be encouraged; for if properly directed it could be turned to the advantage of the development of Greater London and become a means of simplifying the whole problem of London traffic. The improvement in the speed and cheapness of transportation which has made suburban development possible equally permits of the decentralisation of many industries at present working under great disadvantages in London. This tendency towards industrial decentralisation needs to be correlated with the tendency of the population to live under healthy conditions in country surroundings. If new industrial areas were developed in conjunction with good transportation and adequate housing schemes, they would be taken advantage of by manufacturers who seek for improved conditions of production, as the experience of the garden city at Letchworth has proved. The difficulty of the manufacturer who wishes to establish works in the country is that he cannot find houses for his workers.

6. It is hardly necessary to point out that if the 29,000 dwellings proposed to be erected by the London County Council within the next five years, together with the still larger number that may be expected to be built by the eighty-seven other housing authorities in Greater London, are built as dormitories for workers in central London new traffic facilities will have to be provided, and the pressure upon the centre will be greatly accentuated.

7. Anyone who has studied the housing problem in London is aware that the present housing programmes merely touch the fringe of a gigantic problem. To allow a vast amount of house building to proceed around London by local authorities who will not co-operate with one another will be to plunge the traffic and other difficulties of London into still deeper confusion. Yet that is what is about to happen in the sight of us all. Moreover, in the riverside area from Poplar to Tilbury there are to take place large dock and industrial developments which depend upon big schemes of housing and transportation which are beyond the scope of any existing body to foresee and provide. The traffic, housing and development needs of Greater London and the surrounding area will only be satisfactorily supplied by an authority that is able to handle them together and take a wide view of the issues involved.

8. We believe that the increasing complexity of the passenger traffic problem, to say nothing of reasons of health and economic efficiency, make necessary the setting of a check to the solid growth of the metropolis and the further development of residential suburbs. This will not be effected by the ordinary methods of town-planning and the laying out of roads. It requires a scheme for the planning of existing residential suburbs as compact semi-industrial towns, and the establishment of new industrial towns in the form of garden cities with populations of from 30,000 to 50,000 throughout the Home Counties. If that were done on a scale commensurate with the housing needs of London and the Home Counties, it would have an immediate and permanent effect upon the traffic problem by stemming the daily tide of passengers to the centre; and by reducing the need for expensive new lines of road and rail communication, it would give a new direction to the development of the whole area.

The Plates Described

Principal Doorway, Hôtel des Monnaies.

IT has been said, in the rather futile generalising way of which most persons are over-fond, that the talent of an architect is most clearly revealed in the character of his doorways, and that all the best architects, knowing this right well, give more thought to this feature than to all the rest of the building. Wren is cited as the most conspicuous example of this concentration; and certainly with him the doorway was a matter of intensive culture. At the other extreme is the architect (whose name is mercifully buried in oblivion) who forgot to provide an outer door; nor did the builders remind him of the omission; their sole business being, they explained, to follow the specification with literal fidelity. The doorway shown is obviously of the Louis Seize period, and is a fine example of beautiful decorative effect obtained by the adroit use of very simple elements. Note how beautifully the sculpture in the tympanum conforms to the curve of the arch; the relative heights being marked by the caduceus held by Mercury, and the branch in the hand of Ceres. A line drawn from these, touching the heads of the figures, and coming to its summit as it passed across the crown, would harmonise sweetly with the curve of the arch. The Hôtel des Monnaies, or Paris Mint, situated next to the Institut and near the Pont Neuf, was built in 1771-5, and its façade, 132 yards in length, and adorned with Ionic columns, is surmounted by allegorical figures representing Peace, Plenty, Commerce, Power, Wisdom, and Law. (See plate page 109.)

St. Anselm's Church, Kennington.

It having fallen to Messrs. Adshead and Ramsey to show, on the Duchy of Lancaster estate at Kennington, a new and gracious mode of cottage building, it followed that when called upon to build a church on the estate they would design it to harmonise with the rest of their work. The design was therefore necessarily pseudo-classical, and the plate showing the south elevation and a longitudinal section will afford a fair notion of the sweet uses to which they have adapted the tradition. Apparently they took a wide sweep of the horizon, and saw that they might venture to set up a dome to conform to (not to compete with!) that of St. Paul's, and with several lesser domes that form a sort of chorus round about it—at a respectful distance. Messrs. Adshead and Ramsey are to be heartily congratulated on their harmonious addition of a nevertheless individual voice. (See plate page 113.)

A Roman Composition.

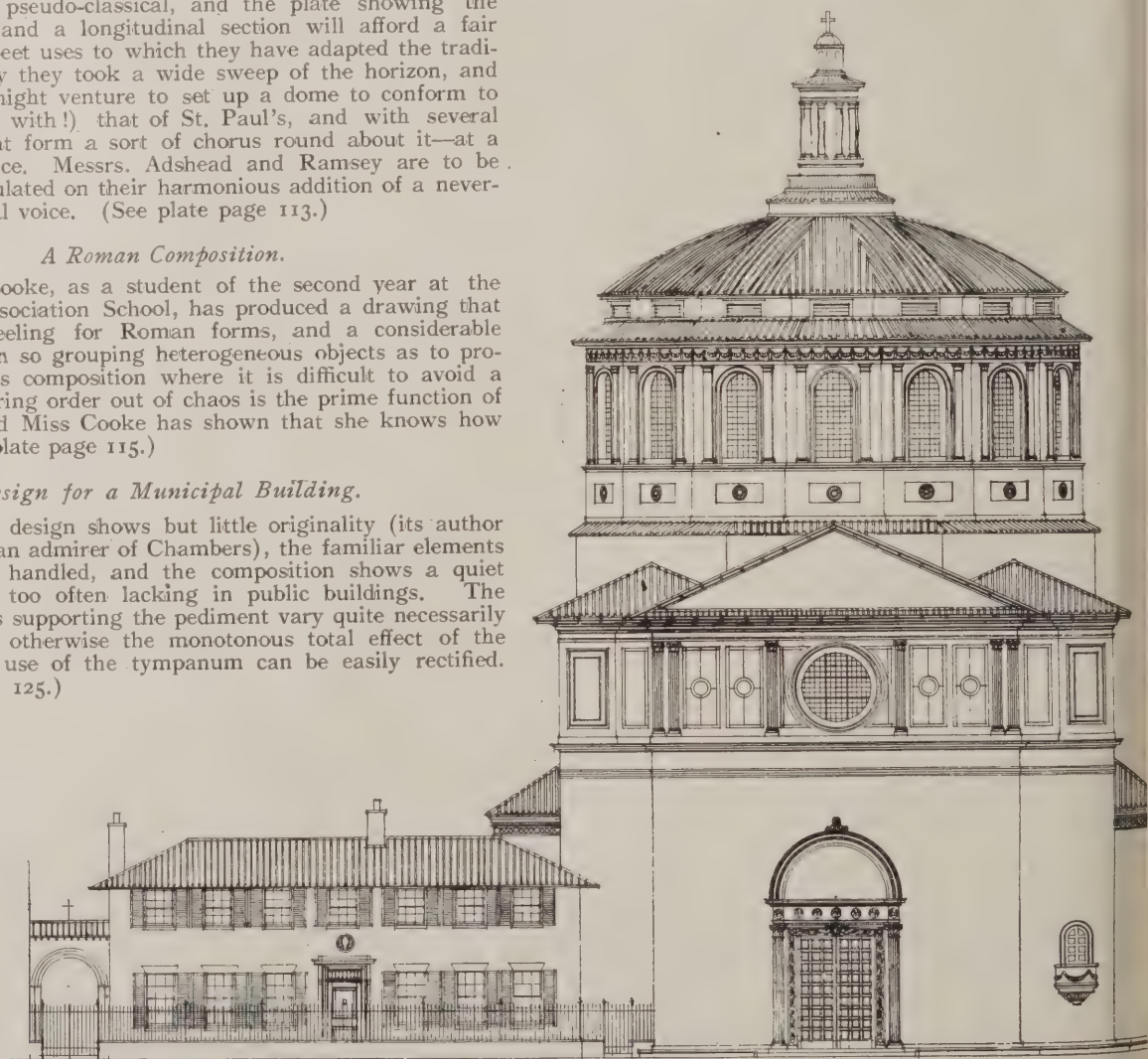
Miss E. G. Cooke, as a student of the second year at the Architectural Association School, has produced a drawing that shows a fine feeling for Roman forms, and a considerable degree of skill in so grouping heterogeneous objects as to produce harmonious composition where it is difficult to avoid a muddle. To bring order out of chaos is the prime function of composition, and Miss Cooke has shown that she knows how to do it. (See plate page 115.)

Design for a Municipal Building.

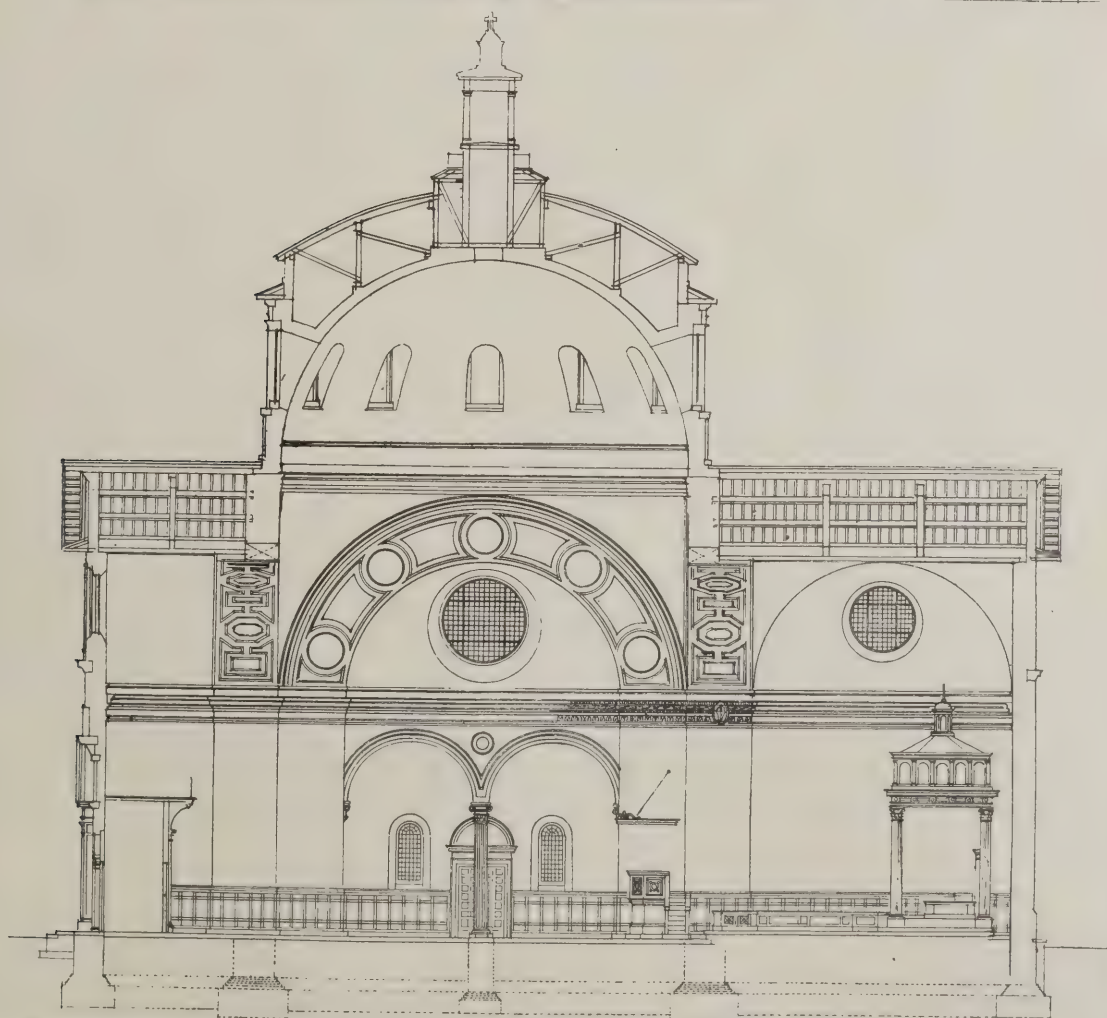
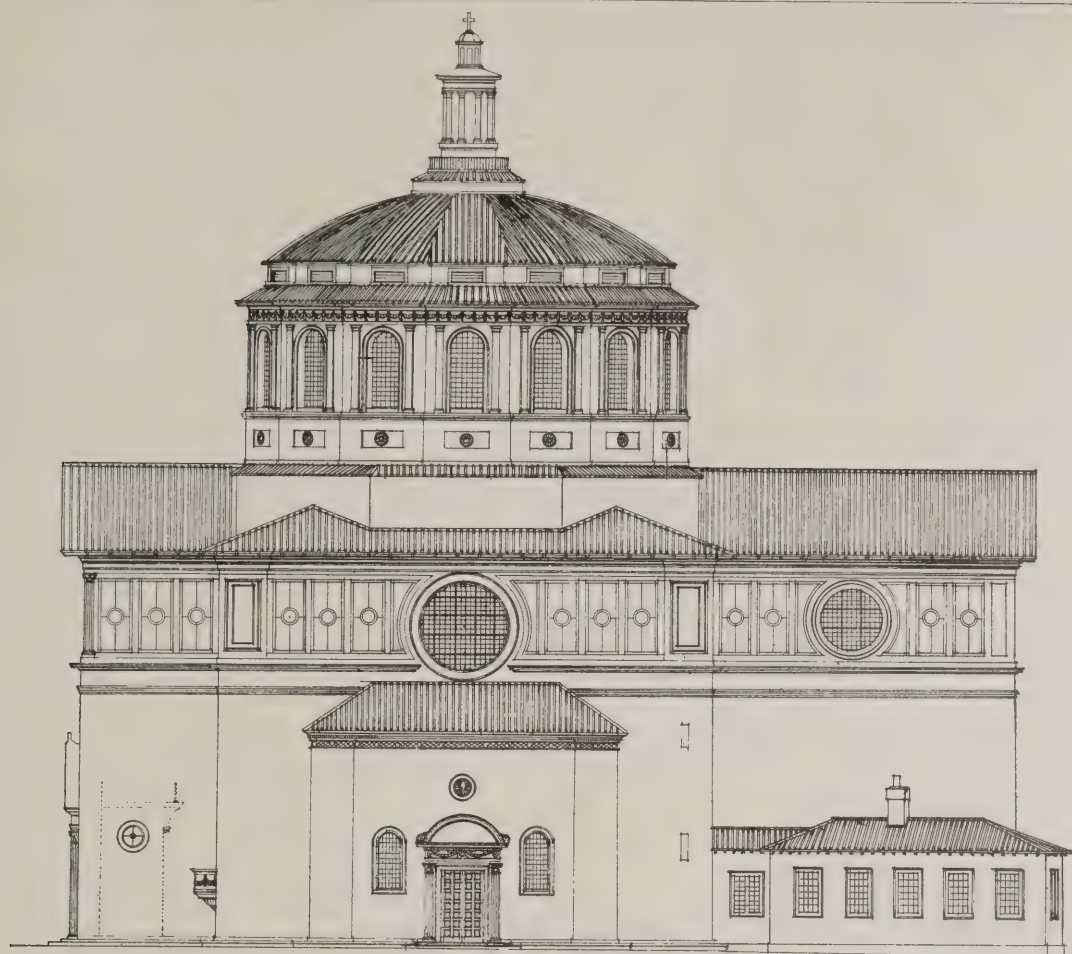
Although this design shows but little originality (its author being evidently an admirer of Chambers), the familiar elements are dexterously handled, and the composition shows a quiet dignity that is too often lacking in public buildings. The coupled columns supporting the pediment vary quite necessarily what would be otherwise the monotonous total effect of the order. A poor use of the tympanum can be easily rectified. (See plate page 125.)

Working Drawing of a Presbyterian Church at Santa Barbara.

This working drawing follows the American manner in indicating with almost meticulous exactitude the constructive details of the First Presbyterian Church at Santa Barbara, California, but it does not follow the careful and indeed beautiful lettering that American draughtsmen generally adopt. Otherwise the drawing is exemplary. This drawing is particularly interesting as showing to some extent the very considerable difference of practice between English and Americans, in planning of churches. In America, the church is becoming one may say so without offence, more and more business-like, not to say more secular, in character, and more and more luxurious in their fittings and equipment. American churches have a tendency to become "institutional." They are not merely places of worship, but places of rational recreation where games may be played and various kinds of social function may be held without shocking the susceptibilities of church-goers as they certainly would be shocked in this country where, however, there has been occasionally a somewhat timorous approach to the American mode. In certain London churches, the crypt has been occasionally turned to some account; one good vicar having established a gymnasium in the crypt, while another has found the basement useful for boxing bouts. Another, it is said, has installed a small printing plant in the crypt, with the dual object of producing cheaply his parish magazine, and of teaching boys a useful trade. But the new approach to the American institutional church in Britain is a type of building favoured by the "Church of Christ, Scientist," and it is stated that, in America, this denomination is about to build a "skyscraper" church, in which there will be business offices.



ST. ANSELM'S CHURCH, KENNINGTON: WEST ELEVATION. ADSHEAD AND RAMSEY, ARCHITECTS.



ST. ANSELM'S CHURCH, KENNINGTON. ADSHEAD AND RAMSEY, ARCHITECTS.



STUDENT'S DRAWING: ROMAN COMPOSITION. BY MISS E. G. COOKE.

Architectural Causerie

AMONG the changes brought about in England during the past fifty years, making for the disfigurement of rare and beautiful stretches of country, the unnatural development of the Isle of Wight as a pleasure resort is surely the most reprehensible. One would have thought that Vectis, of all the southern isles holding the foremost place, might have been spared the calamity of exploitation in the way of inane building. The natural charm of the scenery, the sublime coast views, the cultivated plains and diminutive groves, together with the venerable monuments of the past, combine to form a miniature England. Even the roads are marked by signposts and distance stones recording eighths and quarters of a mile, so precious are the natives of the space at their disposal. Last week I revisited the Wight, making the journey from London to Southampton by train, and thence by the steamer down the Solent to Cowes, a goodly journey and a merry. My objects were to review some works designed by the ubiquitous Mr. Nash; to look once again on the Channel from St. Catherine's Point; to pay my compliments to the old town hooded in monkish garb that stares out to sea and searches the surrounding country above Niton; to visit the Needles and the Old Head; to investigate Carisbrooke and Newport; and come back to town via Portsmouth.

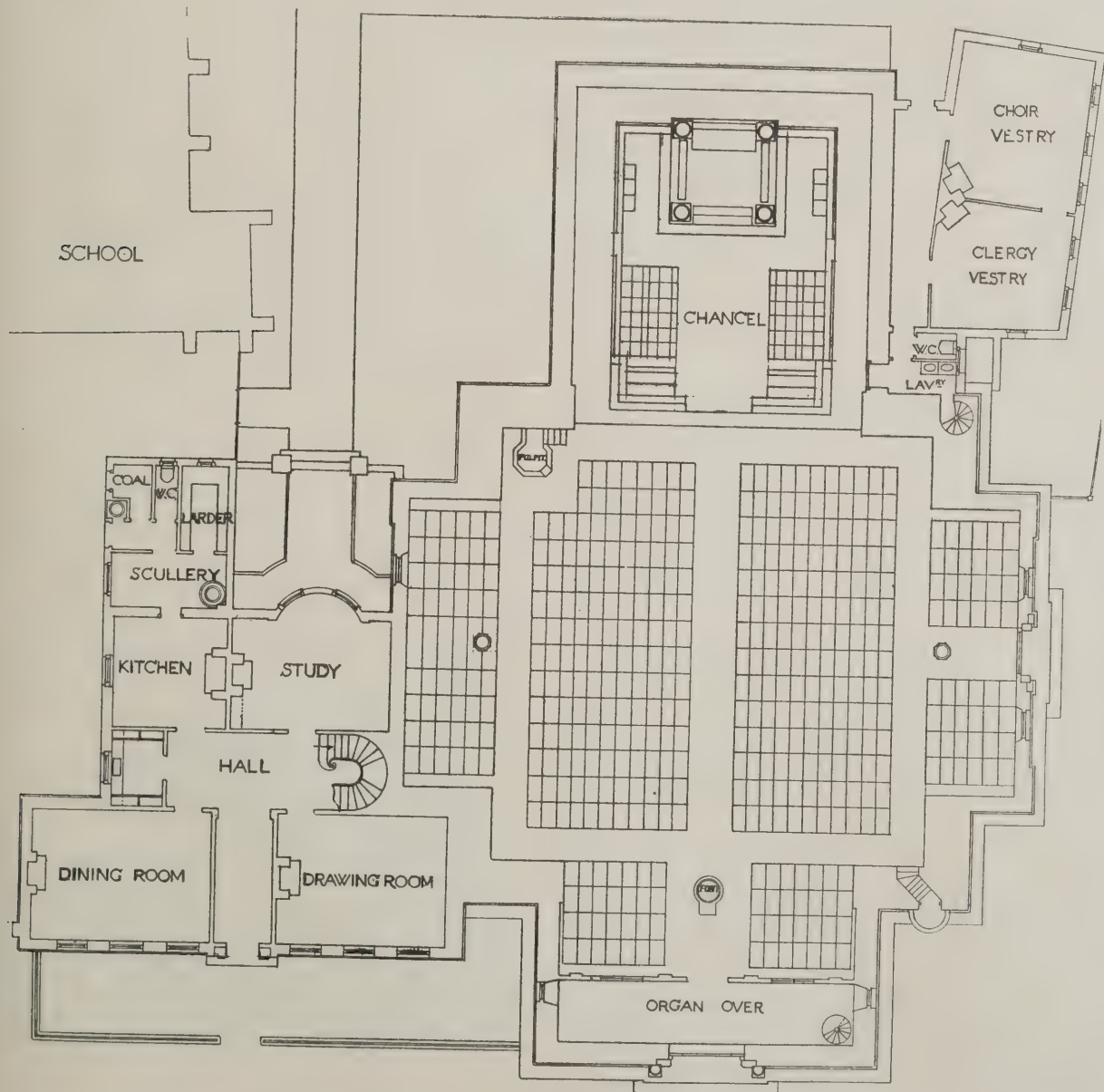
* * * *

Cowes was recovering from the effects of a storm when I arrived. The wharves were deserted, and the aspect of the town, with its houses of yachting grocers by the water, with slate and brick and stucco, foliage and church tower, rising up in

terraced stages, took my fancy. In the distance, across the Medina, the castle built by Nash could be seen, and just beyond I caught some feature of Osborne standing aloof from the bustle and clatter of East Cowes, where myriads of modern houses bully their neighbours across the river. Old Cowes is much as it was when Nash knew it. Here, facing the Solent, are some good villas paying tribute to his influence, some modest brick houses, fashionable when George the Third was at Windsor and Nelson at Portsmouth, a few lodging-houses with parasol verandahs, the exceedingly modest, yet passing strange, Royal Yacht Club, and the unpretentious Parade. It was quite a delight to enter the railway station. There one is transported to the early days of railway travel. The rolling stock is antiquated; fussy little engines puff into the terminus with the importance of long-distance veterans; officials superintend the loading of trains; porters ring bells a quarter of an hour before starting time; and altogether there is more bustle and excitement than one experiences at the Gare du Nord. At last we start on our journey, slowly traversing acres of slate roofs fronting the Medina. Over the way the cruel pinnacles of Whippingham are seen, piously contributed by the Prince Consort, and after an exciting journey of five miles one reaches Newport, a place standing nearly in the centre of the island, as regards its eastern and western extremities, and not far from the same relative position north and south.

* * * *

Newport, as the capital of the island, is a neat, commodious market town, with a good deal of architectural interest, particu-



ST. ANSELM'S CHURCH, KENNINGTON: PLAN. ADSHEAD AND RAMSEY, ARCHITECTS.

larly some eighteenth-century houses. Charles the First knew the place in the days of his sadness. A hundred years ago the principal inns were the Bugle, the Green Dragon, the Star, and the Wheatsheaf—hostelries all famed for hospitality and known to passengers by coach. Nash designed the market house, and specified stone for the Ionic columns. He would without doubt receive a shock could he see the modern tower added to his design. It is recorded that the building cost £10,000 at the time of its erection in 1814, and that the architect gave the design to the town, together with the drawings of the Isle of Wight Institution.

And so by steep ways to Carisbrooke to view the defences erected by William FitzOsborne, the additions made in the time of Henry I. and Edward IV., the Woodrich Tower and Elizabeth's Gate. Gone are the principal rooms that once prisoned Charles the King; the plastered walls of those that remain are scored with the pencilled scrawls of vandals. The restorer has been at work on barbican and tower. Quasi-antique lanterns, ill-considered hinges, quaint bolts and padlocks disfigure sturdy oaken gates. But, notwithstanding the vagaries of Wardour Street, Carisbrooke is a place of memories.

Hearing of the fame of the mansion of Appledurcombe, I made my way to Godshill, and thence to the park, noticing the proportions of the Ionic entrance gate on my way to the mansion. The house was begun by Robert Worsley in 1710 and finished by his son, who endeavoured to effect improvements on the original plan. In design the house looks at its best from a distance. The treatment of the Corinthian pilasters leaves much to be desired, although the general composition is satisfactory. Sir Richard Worsley extended his travels far beyond the usual course mapped out for the Grand Tour. That he took advantage of his visits to Egypt, Turkey, and Italy to collect some magnificent antiques cannot be doubted. Apart from Carisbrooke Castle and Osborne House, Appledurcombe is the most considerable mansion in the island. It is to be hoped that some enterprising student will prepare measured drawings of it in the near future.

So far in my trip through the Wight I had only seen a thousand or so of the five thousand houses that stood when the census was made at the close of the eighteenth century. The older cottages and small manor houses, built of stone with mullioned windows, have defied the ravages of time and innovation. Many of them have thatched roofs. Some have been judiciously repaired to serve as holiday retreats; and yet others have had their bones picked for re-use elsewhere. As I neared Shanklin by the road from Godshill, obtaining a close view of the great hills that stand along the sea, it was borne home to me that the builders and owners of good Victoria's day had a passion for dumping their spiky productions in the most beautiful natural settings. For it is a rule regarding the Isle of Wight that the more charming the scenery the more abominable the Swiss chalet or villa in imitation of Italian precedent. Bad as these peculiar types are, they are immeasurably superior to the brick and tessellated abominations of yesterday which swarm in the vicinity of every town and hamlet. Shanklin village, standing within a semi-circle fomed by the lofty heights, possesses a small but venerable church and the remains of a good manor-house; but, like other favoured spots, it suffers from the blight of speculation, and so does Niton Undercliff.

Niton is famous as being the scene of the apprenticeship of Hobson, who later on became a knight and an admiral in the British Navy. It also holds the delightful Sandrock Hotel, little more than a villa, built in the reign of George the Fourth for the comfort of honeymooners. Nine hundred feet above stands the pharos constructed by Walter Godyton in 1323 to guide vessels that might chance near this dangerous coast at night. It is of octangular form, finished pyramidically at the top. From all points of view this curious survival of the Middle Ages commands the surrounding country. Chale, a mile or so from Niton, has suffered the least of any other village in the island from harmful intrusion. There are one or two perfect cottages of Jacobean date, a stylish Perpendicular church that has escaped restoration, and some interesting stonework at Chale Farm.

As the main object of my visit was to spy out the land and gather information regarding the monuments, I made my way to Medina Hermitage in order to see the column, seventy-two feet in height, erected by Michael Hoy as a memorial to the wars with Napoleon. The inscription on the base reads:

"In commemoration of the visit of His Imperial Majesty Alexander I., Emperor of all the Russias, to Great Britain

in the year 1814, and in remembrance of many happy years' residence in his dominions, this pillar was erected by Michael Hoy."

The curious thing about this graceful monument is the fact that at the termination of the Crimean War the good people added another inscription to commemorate the peace. If for reasons of economy it is decided locally to add some more lines relating to topical events, this column will indeed have done its duty as a pillar of peace.

My account of the tour is nearly finished. I have seen the church tower at Yarmouth designed by Alexander to serve as a landmark from the sea. I have tramped the narrow roads from west to east and from north to south, climbing the hill above Bembridge to see the Worsley obelisk, and from thence to view the beautiful church and spire at Brading, finally reaching Ryde, and, as the diarist would say, so home. On some other occasion I may have something to say about the remains of the Roman villas at Brading.

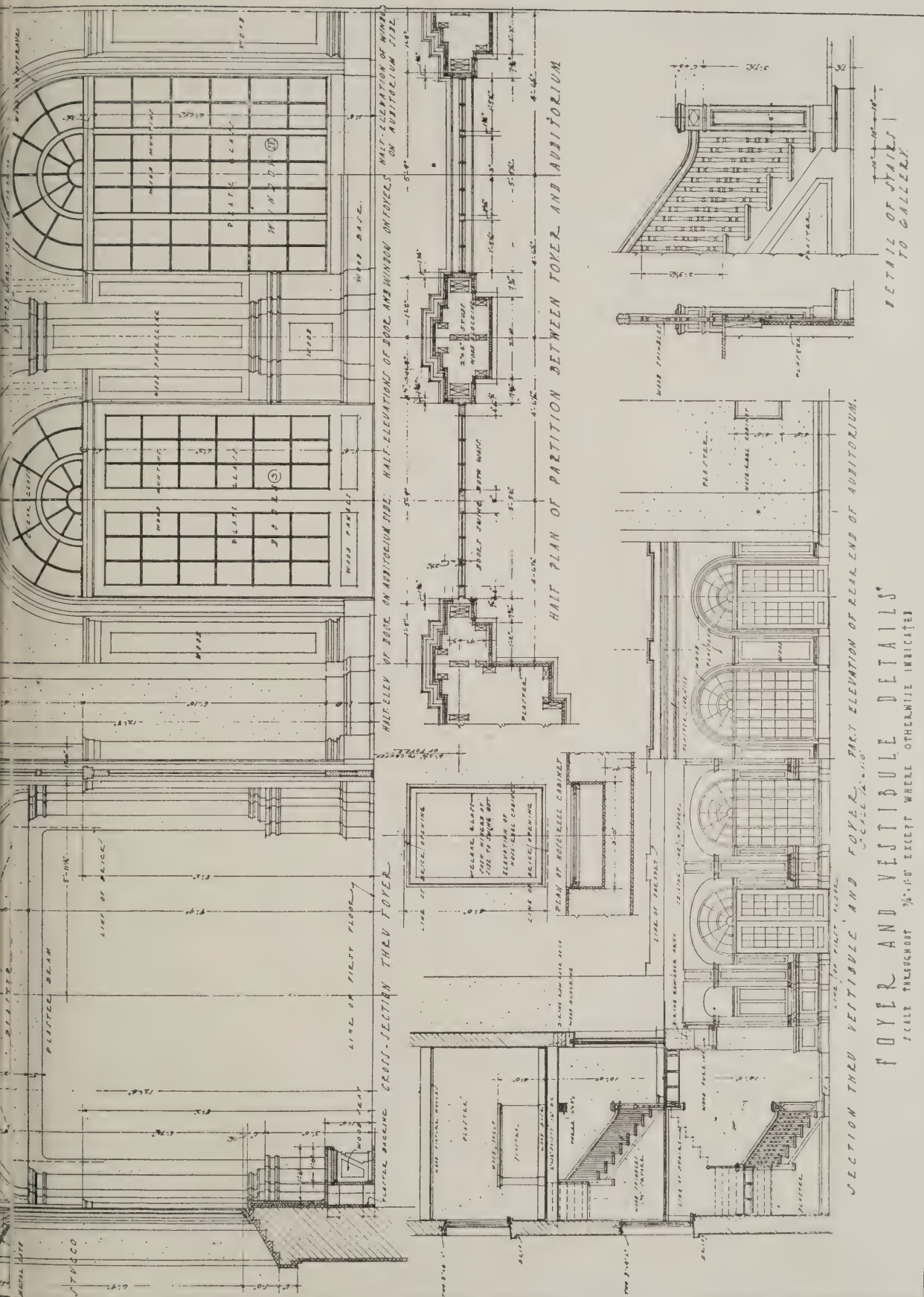
It has been said with some truth, and not a little justice, that we know more about the reign of Victoria than we do about the whole history of the Empire. The reason is not far to seek, for it has been the custom of every critic to attack the industrial epoch associated with the longest reign—just criticism leavened with constructive advice. I have endeavoured to put the development of the Isle of Wight as an epitome of other parts of England, less favoured by beautiful surroundings or climatic conditions. Prior to the year of the exhibition there was a tradition of sorts governing the expression of villas in the Wight, confusing stuccoed walls, Chinese verandahs, and semi-Gothic mouldings as ingredients for the pot-pourri. Not a bad mixture in its way—rather affected, a little bizarre; becoming, as the years passed, less and less favoured. When the Queen occupied Osborne House all the islanders who could afford the cost insisted on building new villas which were to be copies of the great house in miniature; so far they were true to local sentiment. As the years sped by the types became stranger, until the way was prepared for the catalogue style of the past twenty-five years—a veritable reign of terror.

Think of the possibilities attending a period of reconstruction in the island; of good middle-class houses and cottages that might be built. There are conspicuous elements of the late Georgian tradition to be exploited, a new style of country house for people of modest means might be evolved—something dignified and simple, with roofs of easy pitch, slate or tiled, generous eaves, smooth white walls and windows of exquisite proportion. If I were appointed inspector I would condemn many outrageous features, bay windows would have to be carefully adjusted, if permitted at all; there would be no freakish houses, and my myrmidons would receive as much authority to destroy hideous designs as King Harp extended to the commissioner who attended to the business of the monasteries. But, in spite of vehement protests, the existing buildings will remain for years, and will do their utmost to frighten modern settlers. The really unfortunate thing is that architects have not been commissioned, as they should have been, to check the inclinations of that section of the public having ideas.



RECTORY, CASTLE BROMWICH.

BATEMAN AND BATEMAN, ARCHITECTS.



FIRST PRESBYTERIAN CHURCH, SANTA BARBARA, CALIFORNIA. ROLAND F. SAUTER, ARCHITECT.

The Deflection of Beams due to Unsymmetrical Loadings

By PERCY J. WALDRAM, F.S.I.

(Continued from No. 1280, page 97.)

Deflection Due to Unsymmetrical Point Loading.

In Fig. 2 let a girder (A B) be loaded with a weight (W) at a distance a greater than the half-span from the bearing A, the total span being a + b. The maximum flange stress due to this load = $\frac{Wab}{(a+b)Z}$.

Point of Maximum Deflection.—It can easily be found by experiment with a wood beam and a weight that the maximum deflection is neither under the load W, nor at the centre of the span, nor at the centre of gravity of the diagram of flange stresses; the first operation is, therefore, to locate it.

Obviously it will coincide with the position of the bending moment due to the triangular loading AcB. This is identical with the position of the point of minimum shear due to such hypothetical loading, i.e., the distance Ax from bearing A at which the hypothetical load on Ax is equal to the hypothetical reaction at A. The distance of the c.g. of the whole triangular load from B is

$$\begin{aligned} &= \frac{f}{2} Ax \frac{a+2b}{9} \times 2 = \frac{Wabd}{2l(a+b)} \times Ax \\ (2) \Delta_{\max} &= \frac{Wab(a+2b)}{9EI(a+b)} \cdot \frac{\sqrt{a^2+2ab}}{3} \end{aligned}$$

Deflection at Centre of Span.

The ordinate of flange stress diagram at a distance from A of $\frac{a+b}{2} = \frac{l}{2}$ is $f \frac{a+b}{2a}$

The total load on $\frac{l}{2}$ is $\frac{f(a+b)^2}{4a}$

B.M. at mid span

$$\begin{aligned} &= \left(RA \times \frac{l}{2} \right) - \left(\text{load on } \frac{l}{2} \times \frac{a+b}{6} \right) \\ &= \left(\frac{f}{2} \cdot \frac{a+2b}{3} \cdot \frac{a+b}{2} \right) - \left(\frac{f}{2} \cdot \frac{(a+b)^2}{4a} \times \frac{a+b}{6} \right) \\ &= \frac{Wab}{2(a+b)} \left\{ \frac{(a+2b)(a+b)}{6} - \frac{(a+b)^3}{24a} \right\} \\ &= \frac{Wab(a+2b)}{6} - \frac{Wb(a+b)^2}{48} = \end{aligned}$$

$$(3) \Delta_c = \frac{Wb}{48EI} (3a^2 + 6ab - b^2)$$

The close approximation of the position of maximum deflection to the centre of the span, and also the extremely small difference between the maximum and the central deflection, should be noted. In this case the point load is 1 ft. 0 in. from the centre of the span, i.e., at an eccentricity of 10 per cent. of the span; yet the deflection is only 3 per cent. less than the maximum, and occurs at 3 per cent. of the span from the centre.

Similar calculations with the point load at 7 ft. 0 in., 8 ft. 0 in., and 9 ft. 0 in. from A, viz., at eccentricities of 20 per cent., 30 per cent., and 40 per cent. of the span, give differences of $2\frac{1}{2}$ per cent., $1\frac{1}{2}$ per cent., and $3\frac{1}{2}$ per cent. respectively. Even where the load is at an eccentricity of 40 per cent. the maximum deflection is only 12 per cent. from the centre.

Unsymmetrical loading is always more or less combined with symmetrical loading, if only that of the weight of the girder. As the maximum deflection of symmetrical loading occurs at the centre of the span, the position of the point of combined deflection of symmetrical loads and unsymmetrical point loads is still closer to the centre; and the difference between it and the combined deflection at the centre is even smaller than the difference between the maximum and the central deflection, due to the single eccentric point load acting alone.

The exact position and extent of the maximum combined deflection can be obtained by plotting the separate curves and superimposing them; but this long and tedious process is obviously unnecessary for any combination of equally distributed and point loads which can be calculated for the mid-span position; because the difference between the total maximum deflection and the total deflection at mid-span is practically negligible.

Determination of Deflection by Graphic Methods.

The solution of structural problems by means of graphic construction is popularly considered to effect an enormous saving of time and mental labour. But anyone who is accustomed to make his slide-rule do all the simple arithmetic involved in structural calculations generally finds that results are obtained more quickly by the application of formulæ. The calculations involve no subsidiary mental effort in the calculation of scales, they can be more readily checked, and can be typed for record and duplication.

Yet graphic methods of calculation continue to find favour with many designers; and in cases where the desired result is affected by a number of influences which cannot be covered by a single formula, they do undoubtedly save time.

This is particularly the case with regard to the calculations of the maximum combined deflection caused by a number of loadings, especially when any of the loadings are distributed over a portion only of the space.

The graphic determination of deflection is also extremely simple. However complicated may be the loading on the beam, when once the bending moment diagram is determined, all that is necessary in

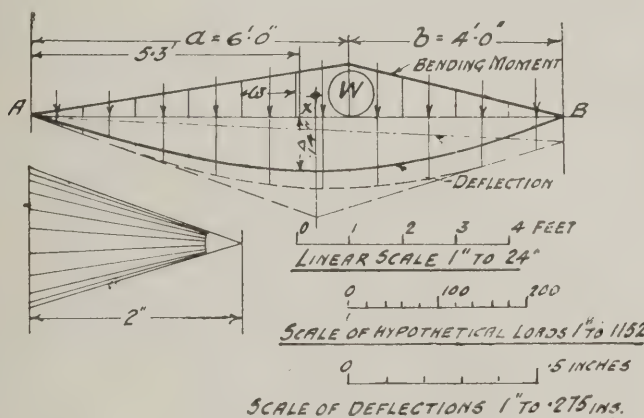


Fig. 2.

$$\frac{a(b + \frac{a}{3}) + (b \times \frac{2b}{3})}{\frac{f}{2}(a+b)} = \frac{a^2 + ab + \frac{2}{3}b^2}{a+b}$$

$$\frac{a+b}{\frac{f}{2}(a+b)} = \frac{2b+a}{3}$$

$$\frac{f}{2}(a+b) \left(\frac{a+2b}{3} \right) = \frac{f}{2} \frac{a+2b}{3}$$

The ordinate of load at x = $f \times \frac{Ax}{a}$

$$\frac{f}{2} \times \frac{Ax^2}{a} = \frac{f}{2} \frac{a+2b}{3}$$

$$(1) Ax = \frac{\sqrt{a^2+2ab}}{3}$$

Extent of Maximum Deflection.

The deflection at x = moment of the triangular loading. $f = \frac{Wab.d}{a+3 \times 2l}$

moment at x

$$\begin{aligned} &= (RA \times Ax) - \left(\frac{f}{2} \times \frac{Ax}{a} \times \frac{Ax}{3} \right) Ax \\ &= \left(\frac{f}{2} \frac{a+2b}{3} \cdot Ax \right) - \left(\frac{f}{2} \frac{a+2b}{9} \times Ax \right) \end{aligned}$$

Deflection Immediately Under Load.

$$\begin{aligned} \Delta l &= (RA \times a) \times \left(\frac{f}{2} \times a \right) \times \frac{a}{3} \times \frac{1}{EI} \\ &= \left[\left\{ \frac{f}{2} \frac{a(a+2b)}{3} \right\} - \left(\frac{f}{2} \frac{a^2}{3} \right) \right] \frac{1}{EI} = \\ &= \frac{Wab}{EI \times 2(a+b)} \cdot \frac{a^2+2ab-a^2}{3} \end{aligned}$$

$$(4) \Delta l = \frac{Wa^2b^2}{3EI(a+b)}$$

In the case shown in Fig 2 a = 6 ft. 0 in., or 72 in.; b = 4 ft. 0 in., or 48 in. Let W = 1 ton and the I of the girder as before = 20 and E = 12000. Then the maximum deflection will be by equation (1) occur at a distance from A equal to

$$\sqrt{\frac{36 \times 48}{3}} = 5.3 \text{ ft.}$$

It will by equation (2) amount to

$$\begin{aligned} &\frac{144 \times 24 \times 168}{9 \times 12000 \times 20 \times 120} \\ &\sqrt{\frac{(36 \times 12^2) + (12^2 \times 24 \times 2)}{3}} = 1.4 \text{ in.} \end{aligned}$$

The deflection under the centre of the span (Equation 3) will amount to

$$\begin{aligned} &\frac{48}{48} \\ &\frac{48 \times 12000 \times 20}{48 \times 12000 \times 20} \times 12^2(3 \times 36) + (6 \times 24) - 16 \\ &= 1.356 \text{ in.} \end{aligned}$$

order to fix the deflection is the drawing of a fresh bending moment diagram of the hypothetical load, and the calculation of a scale by which ordinates of deflection may be measured from it direct.

(To be concluded.)

NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS: SUMMER MEETINGS.

The National Federation of Building Trades Employers of Great Britain and Ireland held, from Tuesday to Thursday last week, in London, their summer meetings, which commenced on Tuesday morning with a meeting of the Executive Council in Carpenters' Hall, London Wall, whilst on the evening of the same day a dinner was held at the Trocadero Restaurant, at which the Executive Council were the guests of the London Master Builders' and Aircraft Industries' Association, Mr. F. J. Gayer presiding.

On Wednesday the half-yearly general meeting was held in the Carpenters' Hall, Mr. F. L. Dove, D.L., L.C.C., the president of the Federation, in the chair.

The Lord Mayor of London (Sir Horace Marshall), in extending a very hearty welcome to the Federation, said that the after-war conduct of our people and the development of our commerce depended upon speedy operations in the building industry. The need was so urgent that it could best be met by co-operation rather than by competition. The City was responding to the Government's appeal by inaugurating a £2,000,000 housing scheme. He believed that builders would act in this matter with patriotic as well as commercial motives. In the new era of construction, he said, there was an opportunity for the Federation to act as guide, philosopher, and friend, and thus to exercise a beneficial influence on the building industry. Although he was not a builder, he was, when not Lord Mayor, an employer of labour. All good employers were desirous that labour should have its fair share. It would be a poor look-out for the country if Capital and Labour did not work harmoniously together.

In thanking the Lord Mayor for his presence and his kindly words of welcome, Mr. F. L. Dove referred to his lordship's remark that the Federation represented the second largest industry in the Empire. It was only through the organisation of the employers being thorough and complete that they were able to speak authoritatively on behalf of the capital invested in the trade, and that they could meet in conference and discuss with the great labour organisations the many interests vital to both sides. Such discussions and conferences enabled the great majority of questions which arose to be settled in a broad-minded and equitable manner, and they found that the stronger and more complete the organisations on both sides became the more easy it was to settle disagreements without resort to the old, and he might say barbaric, methods of strikes and lock-outs.

The Lord Mayor having withdrawn the business of the meeting began with a motion by the President, on which it was decided to send the following telegram to the Prime Minister: "The members of the National Federation of Building Trades Employers of Great Britain and Ireland, in general meeting assembled, tender to the Prime Minister their hearty congratulations and thanks on his successful efforts in the settlement of the terms of the Peace

Treaty, and express the hope that he will now be able to attend to the many serious questions which require careful and judicious handling, in order that the general industries of this country can resume their normal conditions."

The eighty-second half-yearly report was then read and approved.

Mr. Elvins moved the following resolution: "That the following members of the Executive Council be appointed as a special committee to consider the final draft of the special contract for Government subsidised housing schemes, namely: The President, Messrs. Ernest J. Brown, E. J. Hill, F. Woods, and W. Moffat, and, subject to their acceptance thereof, the National Federation demands that the Ministry of Health insist on its use in all schemes obtaining State aid."

This was carried.

One of the Council's recommendations to the meeting was that the Resettlement Committee of the Industrial Council be recommended, when considering the form of contract for use in Government housing schemes now in preparation by the Local Government Board, to also further recommend the meeting to consider the advisability of pressing the Local Government Board to make the document obligatory on all authorities for use in all schemes where Government aid was obtained.

This was put to the meeting, and after some discussion carried.

A letter was read from the Home Office Workmen's Compensation Committee inviting written statements on (a) the desirability or otherwise of establishing a system of accident insurance under the control or supervision of the State, and (b) the amount of the compensation which should be provided under the present system as established under the Workmen's Compensation Act of 1906, or under any new or modified system which they may decide to recommend.

This matter had been dealt with by the Executive Council on the preceding day.

On the question of organisation, the Secretary, Mr. A. G. White, had prepared a report, in which it was suggested that it might be worth while to appoint travelling organisers in some of the more backward areas, such as the eastern counties and the south and west, but that it was questionable whether this course is necessary generally, having regard to the present natural trend towards affiliation in consequence of the activity of the operatives, an activity which is likely to continue for some years yet. It was further suggested that the responsibilities for local organisation work should remain as indicated in National Rule 17 (l) (m) and (o), and that the National Federation should press the Regional Federations to get the Inter-Federation Organisation and Finance Committees set up and working against next winter, asking them at the same time to take into consideration the present activities of the Operative Organisers in their respective areas and decide what are the best steps to take to turn those activities to the best account in our favour.

The matter was referred to the Regional Federation for report in two months' time.

On the question of closer relations with branch trades, a report was submitted indicating the nature of the negotiations which had taken place between the Federation and certain branch trades.

The question was discussed by the meeting as to whether future negotiations rela-

tive to wages and conditions should be dealt with nationally instead of local heretofore, and it was decided that the matter should be dealt with nationally.

Mr. R. B. Chessum moved the advisability of making it a condition of the Federation's agreeing to a shortening of hours and of any further increase in the minimum rate of wages paid in the building trades, that the operatives should agree to the insertion in all working-rule agreements of satisfactory provisions for maintenance of an equivalent output.

This motion led to animated discussion and was carried.

An amendment to the effect that the agreement shall be ratified by local authorities until the national body has given consent was defeated by a large majority.

Mr. F. Woolley moved that the Government be urged to put into operation once an active propaganda with a view to educating all classes of the community in economic principles, especially in regard to output and the well-being of workers, and that the Board of Education be urged to include in the curriculum of schools under its control instruction on this vital subject.

This was carried.

A debate on certain delicate matters relating mainly, we believe, to certain activities of the Institute of Plumbers was held in camera and cannot at present be reported.

At 8 p.m. on Wednesday a reception was given at Caxton Hall, Westminster, by the President of the London Master Builders' and Aircraft Industries' Association, members of the National Federation, their ladies, and on Thursday, July 17, 10 a.m., a Thames trip, started from Westminster Pier for Hampton Court, where the palace and grounds were visited.

LEGAL.

Builder's Claim.

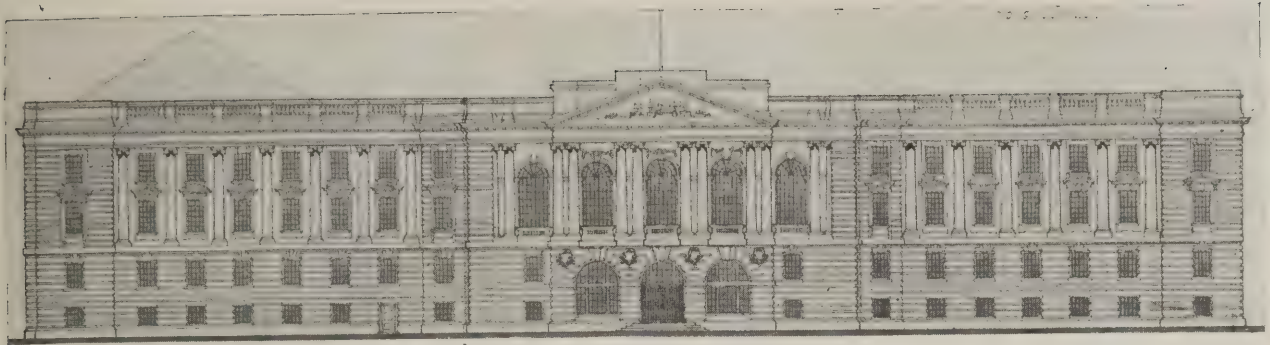
Milton v. Ashburnam.

June 17. —Official Referee's Court. Before Mr. V.

A small matter involving a sum of £35 odd occupied the Official Referee and two counsel, Mr. F. C. Cooper for the plaintiff, and Mr. Whitmore Richards for the defence, during two days, the parties being Mr. Milton, a builder, of Maida Vale, and the defendant Mrs. Ashburnam of 58, Maida Vale.

Owing to the smallness of the amount in dispute, an effort was made at the commencement of the hearing to bring about a settlement, but without result.

By the writ the plaintiff claimed £112 14s. 3d. as a result of proceedings under Order 14. £77 2s. had been recovered, and the money paid, leaving a balance claimed. The house was let to the defendant by Messrs. Inman and Partners, house agents for the landlord, and the work done by the plaintiff consisted of the conversion of a stable into a garage with certain extensions. There was a contract between the parties first of all for £1, which was reduced to £150, a portion of which the landlord agreed to contribute. The plaintiff said that certain extra work not included in the specification was verbally ordered by the defendant, who accepted the charge for it, and said that it was consequent upon complaints made by her surveyor, Mr. Mark Judge, in regard to the roof. The plaintiff said that the work ordered was unnecessary, that the only stipulation was that the roof should be constructed of waterproof material, and that there was no agreement as to the



DESIGN FOR A MUNICIPAL BUILDING. CONRAD B. WILLCOCKS, A.R.I.B.A., ARCHITECT.

val of a surveyor being necessary. Mr. Judge thought that the roof was not sufficiently strong, and said that it ought to be strengthened by adding a 7-in. iron tie. The plaintiff, although regarding this as unnecessary, did the work and urged for it as an extra.

The Official Referee, after hearing the defence, decided that in addition to the sum of £77 2s. paid to the plaintiff's solicitor under the order of Master Day, dated August 23, 1918, the plaintiff was entitled to the balance of £35 12s. 3d., making up a total of £112 14s. 3d. mentioned in the particulars of the claim. The defendant, he said, was not entitled to any other credit, beyond the sum admitted by the plaintiff in his claim. There would therefore be judgment for the plaintiff for £112 14s. 3d., with costs on the High Court scale.

THE ART OF THEATRE LIGHTING.

The following are extracts from a very valuable paper, read recently by Mr. J. B. Gagan, of the Royal Court Theatre, before the Illuminating Engineering Society, through whose courtesy we are able to reproduce them.

From this paper it will be seen that the art of theatre lighting has received much less attention from theatre managers than its importance deserves, and that the pioneers who have endeavoured to reform have met with much discouragement in their endeavours to modernise arrangements in which but little real improvement has been effected in the principles, although there have been many ingenious devices affecting the details, from the time when gas was first used for theatre-lighting.

The same observation applies to electricity, of which the introduction to the theatre was at first bitterly opposed, mainly by the persons who ought to have

welcomed the innovation. When electricity was installed in the Savoy Theatre in London there was a very considerable controversy about it, and there is no doubt that it was at first intensely disliked by the actors because it revealed too much!

In the ordinary theatre of to-day, either through the ignorance of the owner or his lack of initiative, electricity is employed on exactly the same principle that governed the use of candles in 1775 and gas in 1880, and on consideration, I think you will agree with me that this method tends to destroy artistic plasticity even more than the antiquated candle, for the faults of the candle are increased by the higher intensity of the electric power. There are four principal methods of placing light.

1. The overhead batten, that is, a series of coloured or plain bulbs placed among the borders that mask the top of the scene, about twenty feet above the actor's head. The principal function of these is to illuminate painted scenery. These battens are reinforced by movable lengths, which are hung on wings or laid on the floor of the stage.

2. The footlights, which are intended to illuminate the actors from in front and from below.

3. Standard arc-lights, movable or raised high up on the interior edge of the proscenium arch. These are either left open or coloured and frosted at will by means of gelatine mediums.

4. The placing of bunches of bulbs behind a transparency.

It will be easily seen that the shadows cast by such an arrangement of light destroy the naturalness and ease of the actor. Fifty open lights cast fifty distinct shadows, and no amount of pick-up lights can obviate this. The battens that should illuminate the scenery illuminate it in unnatural streaks, casting hard lines that must jar upon the artistic susceptibilities of both players and audience. The bril-

liant direct rays of unprotected arc lights, especially when intensified by a lens, are hard, unnatural, and grotesque, and absolutely destructive of artistic plasticity.

The fault lies primarily in the placing of these lights, and secondly in the lack of diffusion.

Nature has two means of lighting, the direct rays of the sun that fall in parallel lines, and the light of the sky, which is everywhere diffused. These two forms of light used together, or diffused light by itself, can illuminate space, but direct light alone cannot do this.

For the lighting of an outdoor sky this old-fashioned method has failed utterly. The batten, coloured blue, lights a small section overhead, the rest of the light being supplied by standard arcs with or without a coloured gelatine medium. Of course, a large section of the sky is left entirely in darkness, and such light as there is is streaky and unlovely. The placing of lights and their radiation of large tracts with coloured and diffused light, are two of the chief difficulties for the overcoming of which we turn to the expert for help.

Several modern producers, realising the futility of trying to give anything really beautiful under such circumstances, have turned their attention to overcoming these difficulties.

Mr. Gordon Craig introduced some fifteen or more years ago a lighting system in which all light was thrown from the grid high above the actors' heads by means of inverted arcs. This system certainly did produce some very beautiful effects of light and shade, but as the light was entirely on the floor and on the upper portions of the scenery, and the shade principally on the faces of the actors, the experiment was a failure, though its author was perfectly satisfied, as I believe it is one of his curious theories that the actor's face is at all times better unseen. I do not wish you to think that it is my intention to disparage the work which Mr. Gordon Craig has done for the theatre. Quite the contrary. Gordon Craig is a genius whose work for the theatre has produced epoch-making results.

The epoch-making results have occurred, it is true, principally in Germany; the English theatre has seen little of them as yet. But I am afraid there is nothing new in that fact; we have only to remember the case of aniline dyes, of how many other products of English genius which have been cast forth from their native soil for the laborious German to adopt and develop and make his own.

Gordon Craig was neglected by the men of the theatre in this country, and his ideas had almost no direct effect on our stage, yet all the great German producers, from Rheinhardt downwards, have been working mainly, if not wholly, along the lines originated by Gordon Craig.

It was his production of Hamlet that vitalised the Moscow Art Theatre; it was the exhibition of his scene designs which stimulated stage reform all over Europe and America.

There is one system of lighting which gives almost perfect lighting effects, that is the system invented by Mr. Mariano Fortuny, which has achieved a well-deserved and world-wide reputation. The chief difficulty attending this system is that it is nearly impossible to fit it in an old-fashioned theatre, as it needs large tracts of open space which few theatres can afford. It is also very costly in instal-



DESIGN FOR A SMALL HOUSE. WALTER ROSSER, M.S.A., ARCHITECT.

lation and costly to run. To explain it in detail would take too long, and need the aid of diagrams. But, to put it shortly, it depends on the use of reflected instead of direct light. Instead of lighting the stage with incandescent bulbs tinted in crude colours, the Fortuny method throws its brilliant illumination away from the stage against bands of coloured silk, which reflect the light in any colour or tint desired, either upon the whole stage or upon a selected part of it.

This light is strictly diffused, since it casts no shadow of the object it illuminates. Such is the basis of the Fortuny system, and the results obtained are extremely beautiful, since slow gradations of light can be used and colours mixed on the reflecting screen, just as an artist mixes the colours on his palette.

Escape of reflex light is guarded against by the use of black velvet, which has a refractory value of only 2 per cent. Of special beauty is this system when used in conjunction with the Fortuny firmament or heaven, of which there exist three or four patterns. The most simple is a lath and plaster semi-circular wall, painted an azure-blue, and stretching from the floor of the stage, well above the line of sight from the auditorium. Pin holes, illuminated by electricity, can be used to give a star-lit effect, and the whole is bathed in diffused light by a series of reflecting screens. It would be an attractive task to enter into the detail of this system, but I want to point out immediately the objections to it that meet us in the practical field.

1. The impossibility of installation in all but specially designed theatres.
2. The waste of illuminating power due to reflection.

3. The high cost of maintenance.

At the Court Theatre I have endeavoured to achieve the softness and diffusion of the Fortuny system by a very much less complex system of what I might call semi-direct light. This system is the result of experiments extending over a number of years which I carried out on a model stage.

Immediately on the stage side of the proscenium arch I have constructed a bridge stretching from side to side on which I have placed four enclosed half-watt lamps of 1,000 candlepower each, tilted at an angle of about 45 deg., coloured by gelatine mediums and rendered semi-direct by frosted glass screens. These lights and two further perch lights are under resistance, and by the variation of the mediums enables us to mix colour with almost as great a facility as the Fortuny screen. We have not as yet been able to dispense with the footlights. These are however indirect. Concealed bulbs lie in the old trough for the footlights, but lengthways. The direct rays are hidden from the stage by a zinc screen, but a carefully painted reflector gives a very gentle diffused amber light that effectually picks up the slight shadow that is still cast by the overhead semi-direct lanterns.

In place of the Fortuny firmament I have a large semi-circular cloth, painted azure up high, but shading to grey about 6 ft. above the stage level. The perfect illumination of the cloth has always proved a considerable difficulty. At present we have lanterns fitted with 1,000 candlepower half-watt lights, similar in pattern to the bridge lights, but tilted at various angles to ensure the complete illumination of the panorama cloth. On the stage we have

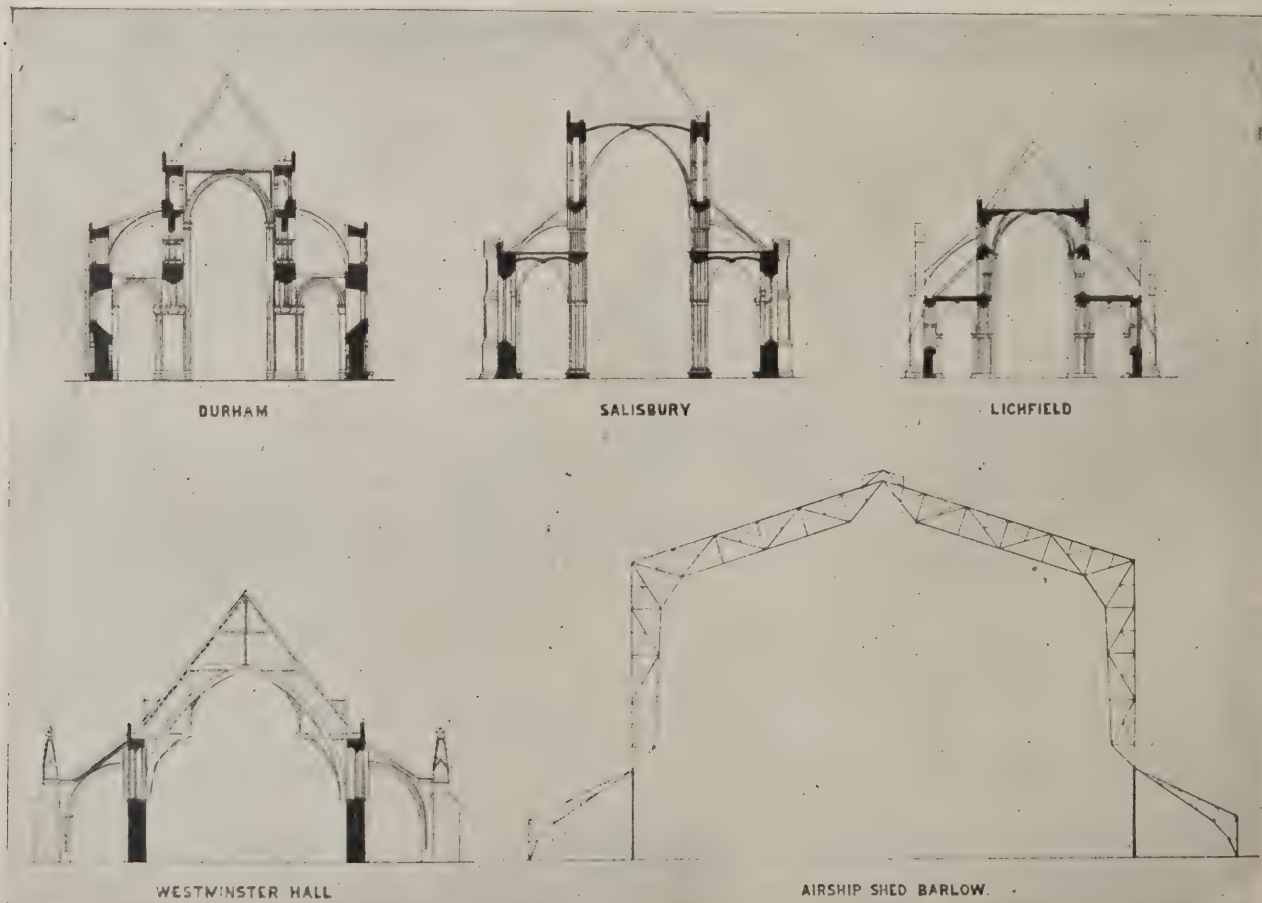
similarly constructed semi-direct stand lights, which pick up the light where overhead lighting finishes. I think I may say that this is an advance, but as yet no means perfect. As yet I have found it difficult to throw gradual changes and gradations of intensity for such effects as gradual sunrise or sunset or heavy clouds. The perpetual mobility of the effects is most difficult to produce, except by means of the Fortuny "palette," or elaborately painted transparency—a gain and unconvincing expedient. Neither is it possible that the colour can be absolutely smoothly laid on when emanating from four or six different sources.

EVOLUTION OF AIRSHIP SHED

BY A. R. FAIRBAIRN.

At the present moment the giant airships, which have recently been completed, attract a great amount of interest in that they are the largest yet constructed in this country. Apart from the difficulties attached to their development and construction, it does not appear to be realised generally that the sheds in which they are built are in many ways a development in building which carries constructional engineering far beyond its previous achievements. The airship sheds which are in existence in various parts of the country, are in many ways the largest and most remarkable buildings in England.

The accompanying diagram shows cross sections of some cathedrals, and as these are all drawn to the same scale their size can be readily compared with that of an airship shed. Curiously enough, the sheds, though built of different materials and being in their baldness of outline the very antithesis of a cathedral, are yet built upon the same structural principles. The



COMPARATIVE DIAGRAMS SHOWING EVOLUTION OF AIRSHIP SHED.

The existing estates proposed to be developed include thirty-one acres of Old Oak Estate, Hammersmith, for the erection of 670 houses to accommodate approximately 3,100; Section C of the Norbury estate (about 11 acres) for 260 houses to accommodate about 1,050, and a section of the White Hart-lane estate (about 62 acres); Tottenham and Wood Green for the erection of 1,110 houses to accommodate approximately 5,500. The estates proposed to be acquired include seventy acres out of the 143 acres of land on the Dover House Estate, Roehampton, Wandsworth, for the construction of about 1,200 houses with accommodation for about 6,000; the whole or part of a site or sites.

of from 150 to 180 acres in the south-eastern district for 1,750 houses to accommodate not less than 8,750, and sites of large extent to relieve the needs of the eastern part of the county by the erection of over 20,000 houses with accommodation for approximately 120,000 persons. In addition provision is to be made for the rehousing of persons displaced by the Tabard Street (Southwark) and Brady Street (Bethnal Green) clearances, and immediate action is to be taken to facilitate the clearance of the worst of the insanitary areas of the county, with an estimated population of 40,000, provision being made upon the cleared sites or elsewhere for new accommodation in place of that to be destroyed.

The following figures are put forward by the committee as the best estimates of the cost that can be made at present. The alternative figures are the results of computations based on twenty and fifteen cottages respectively to the acre, the lower costs relating, of course, to the larger number of cottages to the acre. They are exclusive of the cost of purchasing land beyond that actually to be developed:

Capital Outlay.

Estimated cost of 29,000 cottage dwellings including land, laying out and buildings	from £23,560,000 to £24,820,000
Slum clearances	from 2,000,000 to 2,000,000
Rehousing on cleared slum areas	from 3,370,000 to 3,370,000
Total cost	from £28,930,000 to £30,190,000

Financial Results.

Estimated annual deficit on erection of 29,000 cottage dwellings	£1,015,645 to £1,091,615
Estimated annual deficit on block dwellings	from 108,527 to 108,527
Total annual deficit from	£1,124,172 to £1,200,142

THE POSITION OF PUBLIC UTILITY SOCIETIES.

The following extracts are taken from a statement drawn up at the meeting of the Joint Housing Committee of the Federation of British Industries and the National Alliance of Employers and Employed, held on Friday, July 4th:—

The committee very much regret that the Housing Bill does not fulfil the promise made by Lord Downham, when President of the Local Government Board, that the terms of financial assistance to public utility societies would not be less favourable than those given to local authorities.

They are of opinion that the terms offered by the Bill are such as not only to make it impossible for public utility societies to build houses at the present time without suffering a serious loss, but also, having regard to the rents likely to be obtained for the houses when built, will place these societies at a serious disadvantage as compared with local authorities.

As it cannot be expected that local authorities unaided will succeed in supplying the whole of the working-class dwellings needed in the different industrial districts, the committee are of opinion that the policy of the Government in limiting the activities of public utility societies to those cases where employers are prepared to suffer a dead loss will seriously delay the provision of the working-class houses which are so urgently needed at the present time.

The committee have already been informed that as a result of the unsatisfactory nature of the Government offer to public utility societies, several important schemes which were drawn up in response to Lord Downham's promise are being abandoned, as, although many employers are prepared to lend money to public utility societies, without looking for a

direct commercial return, they do not feel able to afford the loss involved, not only in locking up without hope of return a large amount of capital, but also in defraying the annual deficit which will have to be met if building is carried out under the terms of the Bill.

The committee recognise, however, that there may be certain exceptional circumstances where employers may desire, either to provide housing accommodation in connection with their works, or to assist in carrying out small housing schemes in their districts, and they therefore again desire to draw attention to the special advantages of the public utility society method of supplying working-class housing accommodation, which have been fully explained in their first report.

The following were some of the advantages mentioned in that report: (a) It will enable employers to contribute, by means of loan stock, towards the provision of accommodation for their workpeople without involving the disadvantages of the "tied-house system," under which employees are housed in houses owned by their employers. The following are some of the practical disadvantages of that system. (i) The employee feels that even outside working hours he is living under his employer's eye, and this is often resented. (ii) The employee is apt to regard his house as part of the works, and consequently its upkeep and repair as matters which solely concern his employer. (iii) In districts where housing accommodation is scarce, great difficulties may arise in the case of an employee tenant who is dismissed from or leaves his employment. The housing of employees by the public utility societies avoids these difficulties very largely, since the houses do not belong to the employer, but to the society of which the tenants are members. Moreover, it becomes possible to take the control and management of the houses out of the hands of the employer and vest it in a joint committee on which the tenants can be represented, thus relieving the employer of the onus. (b) It will enable several employers in a district to join together for the above purpose and so take effective action where no single employer, when acting independently, would be in a financial position to do so. (c) Such a society gives those who have advanced it money a much better security than is possessed by the owner of an ordinary small building estate. The society has a lien on the investments and funds of the members, and this enables arrears of rent and the occurrence of dilapidations to be prevented. Moreover, the tenant is responsible for inside repairs and the amount of these is charged against his repairs fund, so that it is to his advantage to look after the property. (d) By giving the tenants a share in management and an interest in the society, many of the difficulties usually attaching to the management of small house properties are avoided, since arrangements can be made for the management to be carried out by a committee, nominated in part at least by the tenants themselves. Moreover, the society provides an opportunity for securing real social advantages to the tenants, and forms an admirable medium for establishing better relations between the employer and his workpeople. (e) The advantages mentioned in paragraph (d) make it possible for the State to contribute substantially towards the assistance of these societies and thus make operations on a large scale possible without any of the objections which would attach to the

State assistance of purely private enterprise.

The Committee state that as they are anxious to assist the formation of public utility societies, they are making arrangements to supply with information or place in touch with expert advice, members either of the Federation of British Industries or of the National Alliance who may desire to avail themselves of such assistance.

Following is the resolution passed by the Joint Housing Committee of the Federation of British Industries and National Alliance of Employers and Employed at the meeting on July 4: "That this Joint Committee of the Federation of British Industries and the National Alliance of Employers and Employed regret that the promise made by Lord Downham when President of the Local Government Board—that the terms of financial assistance to be given to public utility societies in the Housing Bill would not be less favourable than those given to Local Authorities has not been fulfilled, and of opinion that as a result, the housing of the working classes of the country will be seriously delayed."

COMPETITIONS OPEN.

September 29.—Incorporated Institute of British Decorators.

The Institute is offering two travelling studentships of £25 each for competition. The drawings must reach the Secretary, The Institute, Painters' Hall, E.C.4, later than September 29, 1919. Further particulars may be obtained from the secretary.

September 29.—Bridlington: War Memorial.

The War Memorial Committee invite designs for a war memorial. Premiums £100 and £50. Sending-in day, September 30. Particulars from the secretary, 79, Quay Road, Bridlington.

No Date.—Liverpool: Reconstruction Pierhead.

The Corporation Reconstruction Committee invite competitive architectural designs for the reconstruction of the pierhead site. Premiums of 1,000, 500, and 250 guineas are to be offered.

COMPETITION CLOSED.

Morley Housing Scheme.

The premium for the Borough of Morley Housing Scheme, comprising two lay-out, has been divided between Messrs. Gordon Hemm and Clifford Holliday, of Liverpool University, and Mr. William Buttery, Leeds.

GLASGOW HOUSING EXHIBITION.

As the time draws nearer for the Glasgow Housing and Health Exhibition, the greater success of the show is assumed. The Kelvin Hall of Industries, a building specially erected by the Corporation of Glasgow for housing exhibitions of this kind, is now found scarcely adequate to accommodate all the firms who are anxious to be represented with a stall, and the small remaining space left is being eagerly sought after. The allocation of the available space to complete the show will be shortly determined by the committee, the Corporation in charge of the arrangements, along with Mr. James M. Fraser, the General Manager.

The exhibition will be thoroughly representative in its character of the various

hich it was purposed dealing with house-building industry. All will have displays by the leading firms from England, Ireland, and Scotland. Prominent amongst these are Messrs. J. & J. Ltd., of Victoria Street, London, will show plant complete for the manufacture of concrete and concrete blocks; Leeds Fireclay Company; John & Co., of Glasgow (modes of Sunlight); Falkirk Iron Company; and Co., Barrhead; Carron Works, Falkirk; Vulcanite, Belfast; Main, Glasgow; William & Co., Glasgow; F. G. Price & Co., Scotstoun; Gillespie's, Ltd., Bridge, Melville, Dundas, and Whitson, Ltd., Belfast; and Bell's Company.

GRADE AND CRAFT.

Expanded Metal Lathings for Plaster Work.

Messrs. The Expanded Metal Co., Ltd., Mansions, York Street, Westminster, S.W.1 (works, West Hartlepool), issued the seventh edition of their list No. 1, which relates to and is entitled "Expanded Metal Lathings for Plasterwork," and shows a large number of photographic views of structures in which this material has been thus employed. Many notable new buildings included, among them being the Royal Archway and Admiralty Arch at the opening of the Mall into Whitehall Cross (Sir Aston Webb, P.R.A., architect), the E. Ingress Bell, F.R.I.B.A., architect, in which the Expanded Metal Company supplied the metal for suspended ceilings, false beams, cornices, and plaster encasing; and the Usher Hall, Glasgow (Messrs. Stockdale, Harrison, architects, and Mr. Howard Thomson, F.R.A.), where the material was used for plasterwork in ceilings, wall-coverings, and cornices, etc. Expanded Metal has found similar use in a large number of important buildings, a few among which are illustrated being the Royal College of Surgeons, Dublin (Sir Aston Webb and Mr. M. Deane); City of Cardiff Technical College (Ivor Jones and Percy Jones); the Britannia Royal Naval College, Dartmouth (Sir Aston Webb), and large quantities of Expanded Metal

Lathing have been used; the London Opera House (Bertie Crewe); the Royal Automobile Club, London (Messrs. Mewès and Davis); Institute of Civil Engineers, Great George Street, Westminster (Mr. James Miller, F.R.I.B.A.); the new Conservative Club, Newcastle-upon-Tyne (Messrs. Cackett and Burns-Dick). Many others are shown in the pamphlet, which is therefore an interesting album of notable modern buildings. An article entitled "Expanded Metal, its Production and Applications" gives full particulars of the material, which is described as "rolled sheet metal, cut and expanded into meshes of various shapes and sizes; each size of mesh is made in several weights; for, while a particular mesh remains constant in size, centre to centre, it can be produced from several thicknesses of sheets or plates, and strands of various widths can be made; the different styles and weights have all a distinguishing number assigned to them, and each may be specified and ordered under its List Reference No. The Expanded Metal Lathings are made from mild steel sheets; they form an ideal key for plaster in ceilings, steelwork encasing, solid and hollow partitions, exterior walls, and other plasterwork; they are dealt with at length in Pamphlet No. 1.

Expanded Steel Sheets and Bars are specially suitable for reinforcing concrete in foundations, walls, floors, roofs, beams, columns, lintels, arches, bridges, roads, grain silos, coal pockets, tanks, reservoirs, dams, retaining walls, piers, abutments, pipes, sewers, conduits, etc. Diamond Mesh Expanded Steel of the 3-in. mesh weights is used mostly for such work, and the 1½ in. and 6 in. meshes also may be used in some cases; the lighter weights of the 2½ in. and 1½ in. meshes are used frequently in concrete for encasing steelwork.

"Exmet" Reinforcement for Brickwork, which is described more fully in Pamphlet No. 4, is specially suitable for reinforcing brickwork, concrete block work, partition slabs, asphalt, etc. It is manufactured from mild steel of 20, 22, and 24 g. in 2½ in., 7 in., and 12-in. widths, and is supplied in standard coils containing 270 or 75 feet lineal. Practically any of the meshes may be used for openwork partitions, shop divisions, fencing, etc.; guards for machinery, windows,

trees, etc.; lockers for clothes, tools, etc.; baskets for waste-paper, letters, etc.; and similar articles.

In Pamphlet No. 1 full information is given as to the various uses to which the material is put in plasterwork, these being dealt with under the following headings: Expanded Metal Lathings for Plasterwork; Plasters and Mortars for Expanded Metal Lathings; Suspended Ceilings on Expanded Metal Lathing; Steelwork Encasing; Seats, Risers, Stairs; Thin Walls and Partitions; Pugging; Composite Flooring on Timber Joists; Overcoating; Cottages; Light Frame Buildings; Tanks; Boats. Under each of these headings there is valuable practical guidance; and finally there is a useful page on "How to Specify." This pamphlet, in fact, besides being, as we have already indicated, an album of interesting views, is also a compendium of practical details of plaster-work on expanded metal lathings.

New "Pudlo" Pamphlet.

The many uses of "Pudlo" in the waterproofing of architectural works are explained in a booklet issued by Messrs. Kerner-Greenwood and Co., Ltd., of King's Lynn, the sole owners and manufacturers. "Pudlo," a white powder, is mixed in the usual cement rendering or in concrete, in varying proportions, according to the purpose for which it is required, and is claimed by the manufacturers to be an economical, inexpensive, and successful means of preventing dampness and the penetration of moisture. No extra labour is entailed by the use of "Pudlo," which is simply sprinkled on the dry cement.

Large Purchase of Steel Stock.

The Somerville-Barnard Construction Co., Ltd., announce that they have purchased a London stock of 1,000 tons, consisting of joists, angles, channels, tees, and plates, which they are prepared to sell at keen prices for a quick turn-over. Communications should be addressed to Archangel Works, New Cross, London, S.E.

ARCHITECTS' EX-SERVICE DINNER.

A dinner, open to all members of the profession who served in any of H.M. Forces during the war, will be held in London on July 30. Tickets, price 7s. 6d. each, can be obtained from any of the following: Major M. E. Webb, D.S.O., M.C., 19, Queen Anne's Gate; Capt. W. G. Newton, M.C., 4, Raymond's Buildings, W.C.1; Capt. M. Waterhouse, M.C., Staple Inn Buildings, 335, High Holborn, W.C.1; and G. Fildes, 9, Durham Villas, Kensington, W.8. The time and place will be announced later.

HOUSING PROPAGANDA.

Dr. Addison, the Minister of Health, has appointed a committee to advise the Department as to the best measures for disseminating information with regard to Housing. The Committee consists of the followings members:—

Sir Herbert Morgan, K.B.E. (chairman), Mr. H. R. Aldridge, secretary of the National Housing and Town Planning Council; Mr. H. Holford Bottomley, C.B.E.; Miss Churton, secretary of the Rural Housing and Sanitation Association; Captain R. L. Reiss, chairman of the Executive Committee of the Garden Cities and Town Planning Association; Mr. Lieuter Thomas, chairman of the Welsh Housing and Town Planning Association; and Mr. J. Silas Whybrew, secretary of the Labour Housing Association.



THE BRITANNIA ROYAL NAVAL COLLEGE, DARTMOUTH.

SIR ASTON WEBB, P.R.A., ARCHITECT.

(See "Expanded Metal Lathings for Plasterwork.")

The Week's News from Far and Near

New School at Swansea.

A new school to be erected at Swansea will cost £73,191, against £30,000 quoted in the early days of the war.

Housing in London.

Plans submitted by the London County Council for the erection of 400 houses, most of them in Norbury, have been approved by the Ministry of Health.

Kingston Housing Scheme.

Kingston Town Council has decided to purchase a large area of land adjoining the Cambridge Home for Soldiers' Widows as a site for the municipal housing scheme.

Australian Sawmills and Brickworks.

In the House of Representatives, Mr. A. Poynton stated that the Commonwealth Government of Australia will probably establish sawmills and brickworks in order to minimise the cost of building soldiers' homes.

Housing at Sheffield.

The erection of more houses on the Sheffield Corporation estate at Higher Wincobank is being proceeded with. The corporation intended erecting 206 additional houses at Higher Wincobank. Seventy-two are already in process of construction, and of these a number will be built of concrete.

Housing at Greasborough.

The Greasborough Urban District Council have decided to acquire 9,095 square yards of land from Earl Fitzwilliam for £500, situate off Firth Street and Scrooby Street. Twenty houses will be erected there at an estimated expenditure of £12,000, exclusive of land, as the Council's first instalment of a housing scheme.

Coventry Town Hall.

A site at the corner of Earl Street and Little Park Street, opposite the Council House, has been selected by the Coventry City Council for the town-hall. The Council House Sub-Committee estimate the cost of the site at from £50,000 to £100,000, and that of the town-hall, governed by the style of the Council House, at £100,000.

New Emporium for Liverpool.

An emporium is about to be built in Liverpool for Harrods, Ltd., at an estimated cost of over a million. Contracts have been entered into with the Ecclesiastical Commissioners to purchase the church site in Church Street, 246 ft. long by over 200 ft. deep, and plans are being prepared for the erection of a five-floor building.

Colwyn Bay Memorial.

The proposal to erect a monument on a site above Pwllcrochan Woods at Colwyn Bay has been adopted at a public meeting, on the recommendation of Sir Goscombe John, the Welsh sculptor. In addition, it is proposed that an institute for the use of both sexes be erected as part of the new town-hall buildings. It is estimated that the monument will cost £3,000 and the institute £9,000.

Architectural Appointments.

Major B. Matthews, A.R.I.B.A. (attached Royal Engineers), has been appointed Consulting Architect to the Military Works Department in India at Army Headquarters, Simla. In connection with the Pontypridd housing scheme, Mr. F. Evans, of Aberkenfig, has been appointed

first architectural assistant at a salary of £350 per annum and Mr. C. Martell Lewis second architectural assistant at a salary of £250 per annum. During the past four and a half years Mr. Lewis has been temporary assistant surveyor to the Urban District Council.

Silvertown Memorial Church Hall.

Princess Mary laid the corner stone on July 12 of the memorial church hall, Silvertown, erected on the site of St. Barnabas Church, wrecked in the explosion of January, 1917. The hall has been built to commemorate the escape from death of sixty or seventy children at the time assembled in the Parish Hall, and of those killed in the explosion. The Princess received a silver trowel from Mr. E. T. Dunn, the architect.

University College School of Architecture.

The work of the session 1918-19 in the School of Architecture at University College was brought to a close on Thursday, July 3. Donaldson silver medals, presented by the Royal Institute of British Architects, were awarded to Mr. W. E. Dow and Mr. A. R. El-Sukkary; the Trevelyan Goodall Scholarship was awarded to Mr. B. L. Sutcliffe. The Lever Prizes in Town Planning were awarded as follows: First prize, Mr. R. W. Lahey; second, Mr. A. St. B. Harrison.

Architects for London Housing Schemes.

The Secretary of the Royal Institute of British Architects is prepared to receive the names of architects who have served in H.M. Forces and who desire to be registered by the Central Consultative Board for the London area as qualified to prepare and carry out housing schemes. Candidates must be members or licentiates of the Royal Institute, and should give particulars of their war service and practical experience of building in the London area.

Bricklayers' Output.

On July 10, in the House of Commons, Sir R. Horne (Minister of Labour, Glasgow), in reply to Lieutenant-Colonel Sir F. Hall, said that exact information as to the average number of bricks laid by a bricklayer prior to the war and at the present time in this country and the United States was not available, but he would try to get it. He had no reliable information that any of the trade unions in the building trade had placed a limitation on the output of their members. It was obvious, however, that if the housing schemes were to be carried out with the necessary rapidity and without imposing undue cost upon the nation, any limitation of output must be avoided.

Thickness of Bricks in Scotland.

In the House of Commons, on July 8, Lieutenant-Colonel Sir John Hope asked the Parliamentary Secretary to the Ministry of Munitions whether the Scottish Building Trade were consulted before he decided to alter the standard thickness of bricks in Scotland from three and a quarter inches to three inches, and whether he was aware that builders considered the alteration would involve an additional cost on housing schemes? The Parliamentary Secretary to the Ministry of Munitions replied that two of the largest Scottish building contractors had been consulted, and were both strongly in favour of the standardisation on the basis of a 3-in. brick for building with a some-

what thicker brick for pressed facings. It was advised that the adoption of brick would probably effect an economy in the cost of housing schemes. There was no intention of making it a standard.

Supply of Building Materials.

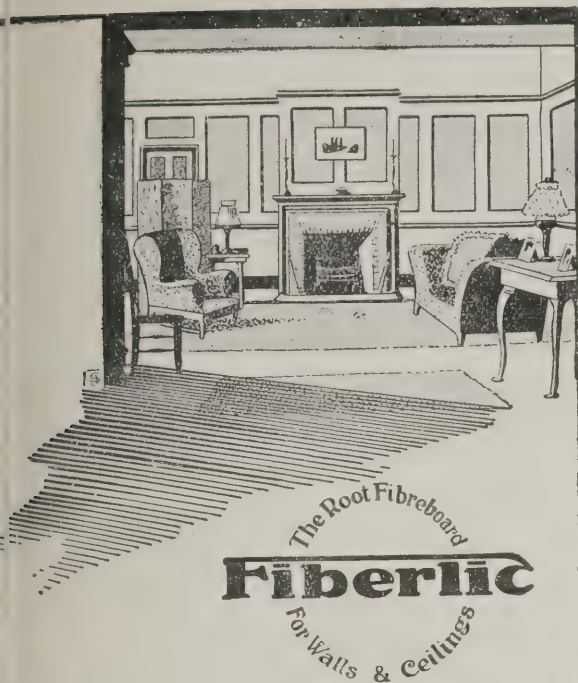
Mr. F. J. Voisey, borough surveyor, Dartford, in a report to the corporation housing, says: "On May 19, it was reported that the Government had asked all those who experienced difficulty in obtaining same to write to the office. I did so, and sent a list of firms, asking them to place opposite the name of the firm supplying, the date of delivery. After waiting nearly a month, I got several sheets of printed material, but no names of firms supplying, no prices, no names of firms supplying, what is most important, no date of delivery, while timber, the most essential material, was not even mentioned at all."

Concrete Houses.

The National Improved Housing Corporation has decided to acquire the system of concrete construction. Winget, Ltd., of London, Warwick, and Paris, will supply concrete block-making machines and mixers. The company have a capital of £250,000, divided into 1,000,000 5s. shares, of which 740,000 have been issued at par. The directors are: Valentine R. Grace, chairman of the Concrete Construction Company; Mr. J. Bateman, of Bateman and Curtis, contractors for public works; Mr. F. King, director of the British Timber Trust; and Mr. Ernest W. Jones, of Walter Jones and Sons, building contractors. Sir Aston Webb and Mr. J. Webb are the consulting architects of the company.

Drainage of Dundee Huts.

The Housing and Town Planning Committee of Dundee Town Council on July 10 received a deputation from the Dundee Operative Plumbers' Union on a complaint in connection with the drainage of temporary huts at present being erected in Watson Street by the corporation. The case of the plumbers was that Mr. Thomson, the city architect, had ordered that the huts be drained by laying down fire-clay pipes instead of iron pipes. They considered that the health of the public would be endangered by this deviation, and the council saw fit to conform to the bye-laws, no plumber work would be carried out at the huts. The deputation further pointed out that if Mr. Thomson's attitude was dictated by economy, it was considered such economy false. Mr. Thomson said that the bye-law in question did not apply to huts, and that there was no danger of siphonage occurring from the use of fire-clay pipes in any one of the buildings. The bye-law was intended for tenements. There were seven families waiting to get into these huts, and he was anxious that the work should be carried out as quickly as possible. Mr. Thomson said that a saving of £200 might be effected by what he had done. Mr. Fraser (Convener of the Public Health Committee) said that from a health point of view it would be advisable to have the drainage in accordance with the bye-law. The committee decided that the matter was left in the hands of the City Architect.



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V7.	4	10 1/2
V8.

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ELECTRICAL NOTES

The "Electro Vapour" Radiator.

The "Electro Vapour" non-luminous electric radiator, designed to meet the demand for an effective and economical electric radiator eliminating the risk and danger of fire, is the subject of a pamphlet issued by Messrs. Benham and Sons, Ltd., of 66, Wigmore Street, London, W.C.1. This apparatus consists of a metal radiator with a small vapourising chamber fixed at the lowest point, and in this chamber is fitted an electric element, which can be easily and cheaply replaced in case of breakdown. The radiator is also fitted with a small water filler and safety valve. Under ordinary working conditions there is hardly any pressure generated inside the radiator, and re-charging with water is only required about once a year, before the winter season. Four patterns of the radiator are made in standard sizes and voltages, or they may be constructed to suit requirements: the portable and the fixed, both of which are for heating living-rooms and bedrooms; the coil, for warming and airing linen cupboards; and the bathroom towel rail. The pamphlet contains clear instructions on the fixing and filling of the radiator, which the firm claim is an efficient, economical, and hygienic electric heater.

Electric Light Fittings.

The General Electric Company, Ltd., of 67, Queen Victoria Street, London E.C., have sent us a copy of their large and profusely illustrated catalogue on electric light fittings. The contents of the catalogue are divided into seven sections, dealing with pendants, brackets, ceiling fixtures, electroliers, standards, bronzes, and crystal fixtures, and there is an exhaustive range of designs, reproduced to scale from the articles themselves. Innumerable architects and contractors have visited the showrooms at the company's head office, where electric light fittings in all the classic styles and periods are thoroughly represented as well as simple and inexpensive fixtures for public and domestic use. In addition the company has upwards of one hundred local showrooms attached to its branches and agencies, where representative collections of the company's designs may be inspected. The Ileen Works, at Edgbaston, Birmingham, which are exclusively used by the company for the manufacture of all kinds of electric light fittings, comprise four floors and basement, having a total floor surface of approximately 40,000 square feet, exclusive of stores, warehouses, offices, and drawing office.

Price of Acquisition.

The following items in the Electricity Supply Bill additional to those given in an earlier issue:—From the an order constituting a District Board, all generating stations within the district (other than private stations), and such transmission lines as may be specified, will vest in the board, subject to the payment by the latter to the owners thereof of the standard price. In the case of an authority's undertaking, the standard price will be an amount of such amount, and continuing for such a period, as may be required to meet liabilities for interest and sinking fund on the annuity may be increased. In the case of a company, individual, the standard price will be the equivalent of the cost of construction, and of the acquisition of the site less depreciation. In default of agreement, the sum to be paid will be determined by a Board of Trade arbitrator. Private generating stations may be acquired by agreement.

It will not be lawful for any authority, company, or person except a district electricity board, to establish a new or to alter an existing generating station without the consent of the Commissioners, but this restriction will not apply to the extension or extension of a private generating station, provided the owner complies with the regulations.

District Boards are given power to use main transmission lines belonging to any authorised undertaking. They may use electricity within their district, but not—

(a) In any area which for the time being forms part of the area of supply of any authorised distributors without the consent of those distributors, except to lighting authorities, or to tramway, canal, or inland navigation companies or authorities for the purposes of traction or haulage, or for lighting vessels and vessels for the haulage or traction of which electricity is supplied; or (b) in any part of the area of supply of a company for any purpose for which the company are authorised to supply electricity without the consent of the company.

Subject to the limitations mentioned, the Commissioners may by order impose on any district boards an obligation to supply electricity in such circumstances, within such areas, and on such terms and conditions as to price and otherwise, as they may specify. Boards are authorised, with the consent of the Commissioners, to acquire by agreement the whole of any part of an undertaking of a local authority or company.

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The Architects' Journal
Wednesday, July 30, 1919

The Architects' Journal
Volume L. No. 1282

THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



THE PONTIFICAL PALACE, ROME.

(From the engraving by Palmucci.)



THE BADIA, MONTECASINO ; CENTRAL COURTYARD. BRAMANTE, ARCHITECT.

THE ARCHITECTS' JOURNAL

Joint Editors: A. E. RICHARDSON, F.R.I.B.A., and J. FINDLAY McRAE.

27-29, TOTHILL STREET
WESTMINSTER, S.W.

Thursday, July 30, 1919

Volume L. No. 1282

Widening the Horizon

WIDENING horizon, physical or figurative, should reveal a brighter prospect; and last week, in a very brief note, we indicated a few of the changes that almost certainly will accrue from the amendment of the curriculum of the Architectural Education School. The innovations give us a wider work; but was not the announcement of these considerable changes rather sudden? There had been, of course, rumours afloat; but the authentic news came as a most dramatic revelation. Not for a single moment is it possible to harbour the base and baseless notion that dramatic surprise was intended, or that it was any desire for secrecy. Nevertheless, the announcement came as a surprise to the average architect, who, when he sufficiently recovers from the first shock, will probably agree with us that, while the pre-stalment of the forward movement in architectural education is very welcome indeed, it does not seem very far along the road to the complete reform which has been so long delayed and seems now in danger of further postponement.

The great reform for which we are all anxiously waiting shall begin with a general invitation to all architectural educationists, and all persons who are keenly interested in architectural education, to pool their knowledge and experience. Eventually there should be a Central Educational Council, so constituted as to be acting as to ensure even-handed justice to every architectural school in the kingdom: none being placed at any sort of disadvantage, whether in starting the reform or in pursuing and fulfilling it. We do not insinuate, and could not possibly suggest, that any architectural school in the kingdom is doing for its own hand, or even for the pre-eminence of London over the provinces (or vice-versa), and while we are perfectly certain that the A.A. is wholly actuated by an enlightened and a thoroughly liberal conception of educational polity, and not by the rather less noble ambition to see one's own school get ahead of the others; yet, even supposing, for the sake of argument, that any one school were to steal a march on its rivals, would that be at all extraordinary? To think it so would be to assume altogether unwarrantably that the old protean competitive spirit had not been tough enough to survive the influence of the war. It may have been wounded, but it is certainly not killed; and the very nature of education should keep it outside that area: where emulation may flourish, to the exclusion of its sorry substitute—we mean that the operation of the competitive spirit whose prime motive is self-interest—making discord where there should be harmony, fomenting and provoking petty jealousies and paltry rivalries instead of steadily seeking all men's good. "Each for himself and the devil take the hindmost" was a competitive policy that was far too prevalent in trade, in the professions, and even in the domain of education, before

the war revealed how noble a thing is self-sacrifice. "Sturdy independence" is a fine narcotic euphemism wherewith to disguise the selfish folly of setting up opposition where co-operation is a plain duty. Our most serious failures in art, science, commerce, war, even in education, may be in great part attributable to the worship of this ugly fetish of competition. Beyond question, "sturdy independence," pure and undefiled, is a superlative quality in a person, a race, or a State; it implies all the merits of strong character—originality, initiative, courage, endurance—but its exaggeration, its exclusion of moderating and controlling influences, is disastrous, making it a too-powerful repellent or even disintegrating force, setting up unnecessary antagonisms that waste more energy than is expended on profit and progress.

It will be quite clear, we are sure, that in jotting down these reflections on the general question we are not for a moment disparaging the new departure by the A.A. School. Quite the contrary; we warmly welcome and sincerely admire and applaud the enterprise, and wish it all possible success. Nor should we, in any case, have blamed this school or any other for keeping its own counsel, minding its own business, confining its activities within its own orbit. Rather it is our object to show, by topical reference, that the reform of architectural education is a matter about which it is urgently necessary to think imperially, or at least nationally, and to take action on the same large scale; and our one regret or misgiving is that as yet there is no tangible evidence of any serious endeavour to link up all the educational resources of the kingdom, and perchance even those beyond its borders. Such a herculean labour is obviously beyond the scope and strength of the A.A. or of any other school. It is for the Institute, acting in combination with the Society of Architects, to initiate a great work of educational reconstruction, and to claim for it the aid of the Government and of the universities. We learn that the R.I.B.A. Council has just resolved "to make a further effort to unify the Profession," and we suggest that this matter of education is a fundamental subject on which they should hasten to agree.

It may not be doubted, though one would like to receive definite assurance on the point, that this vitally important matter is receiving the earnest attention of the Building Industries Consultative Committee, which, however, has so much else to do that it must needs delegate the subject to some specially constituted or, as we used to say before the war abolished the old catch-phrases, to some ad hoc body, whose deliberations should result in the framing of a comprehensive national or imperial scheme of architectural education, which should ensure the co-ordination of all existing facilities without unduly interfering with autonomy or "self-determination." It should make broad and plain the highway to the university and the by-paths that lead to them; break down the barriers that keep out a student

merely because he is poor; enlist in the service of professional training men who have attained to the highest rank in the profession; rear suitable buildings and equip them adequately; organise large parties for visits abroad as well as at home, sending out its "travelling students" not in single spies but in battalions, and not as a reward for exceptional merit, but as a matter of routine—in short, doing all things that are lawful and practicable to advance architectural education.

A school of thought that possibly became extinct when Mr. March Philipps untimely died used to take delight in the quaint paradox that architectural education killed architecture. Whether or not the accusation

is valid depends on whether the education is good and nourishing or whether it is bad and lethal—let us say, rather, whether it is real education or sham, for real education cannot be otherwise than good. Sham education may possibly pervert or repress talent; but it is more certain that real education will foster and develop it. How to ensure that nothing but the genuine, unsophisticated essence shall be distilled, administered, imbibed, should not be beyond the wit of man to discover; and at least we may continually press toward that mark, well content if the horizon, while it constantly recedes before us, as constantly widens and brightens.

J. F. McR.

Notes and Comments

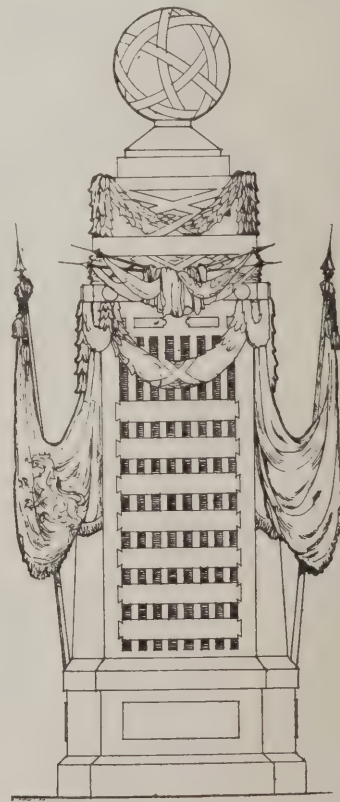
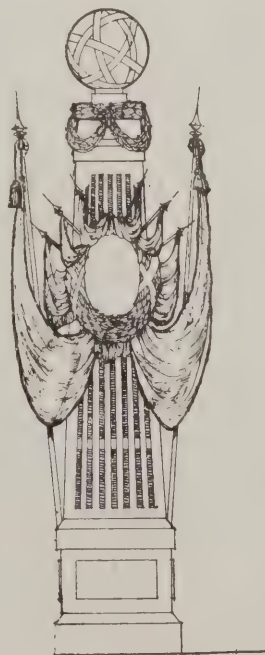
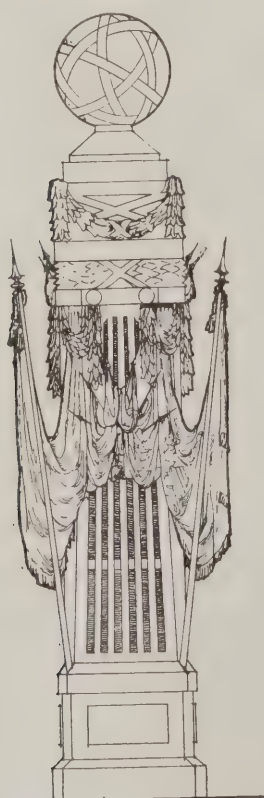
The President's Message.

A MESSAGE delivered by the R.I.B.A. President, Mr. John W. Simpson, last week, and reproduced in subsequent pages of this issue (see page 142), is important not merely as an outline of the work that the Institute has to do, but also for its clear indication of the spirit in which it will be done and of the principles that will govern policy. For a president to "show his hand" thus openly might be unwise if he were not an exceptionally strong man, because the timorous would fear that he is giving hostages to fortune, "revealing too much to the enemy," and so forth. To us he seems to have chosen the better part. In common with all other institutions, the R.I.B.A. has been hitherto inclined to set too much value on reticence. Publicity is far better. It is only on rare occasions that candour is mischievous and untimely. Half the discontent with the Institute arises from want of knowledge of its work, its methods, and its aims. We are convinced, therefore, that in publishing his Message, which is also in part a programme, he not only "breaks a custom" but establishes a good precedent. Since the Message is here for all to read, it is almost unnecessary for us to say that in our opinion it reveals at once a clear conception of the difficulties ahead and a determination to meet them energetically and with all the wisdom at command. Mr. Simpson, in coming forward thus promptly and thus frankly with his views on the situation, has inaugurated a new kind of diplomacy, which we sincerely trust will be as successful as it is engaging. His generous recognition of the advantages of publicity by means of the professional Press is particularly ingratiating, and we are sure that the Press may

be trusted to respond sympathetically. The President could have taken no more effectual step to advance the popularity of the Institute and to stimulate interest in its proceedings.

Architects and Housing Schemes.

The President of the Royal Institute had in the "Times" of July 23 an eloquent plea for the employment of architects on housing schemes. "Indifference on the part of housing authorities to æsthetic value," he remarks, "not only diminishes the national amenity, but does a double wrong to the State, which has provided work proper for its demobilised architect sons, yet sees them still without employment. appeal for these young men. No profession has suffered from the war as theirs has done, and hundreds who left their hard-won practices to join the Colours have now returned to find the building industry paralysed and themselves idle." The President then mentions very usefully for the information of a whom it may concern, that the Central Consultative Board of the Royal Institute has established a register of its qualified members and licentiates, and is prepared not only to nominate architects, but to advise both them and housing authorities to accept the nominations in the preparation and execution of their projects. "The policy adopted," he explains, "is to distribute the work widely, so that many may be employed and monotony of design avoided. For every considerable scheme several junior executants (those with war service having priority) are appointed, under the general direction of a senior superintending architect; fees, according to a special reduced scale, being divided by the whole group." Finally, t



PEACE DECORATIONS FROM THE MALL AND CONSTITUTION HILL. SIR FRANK BAINES, ARCHITECT.

esthetic phase of the case for employing architects is put as briefly as tersely: "In the design of small houses the felicitous addition of our English architects is acknowledged by the artists of every country, and their thorough practical training a national asset which should be fully utilised." He adds a warning that "if housing authorities delay too long, Wessex and the Cotswolds, the Weald and Derbyshire, will be covered by the sealed patterns of soulless officialism"—an excellent, ring-sounding phrase, in faith, with marrow in its bones. An explanatory circular on the approved method of employing architects on housing schemes has been addressed by the President to local authorities.

The Cenotaph to the Glorious Dead.

The cenotaph designed by Sir Edwin Lutyens for erection in Whitehall has found much favour in the eyes of the public. No doubt the effect is mainly emotional, but if the subject had been but ill-expressed there would have been more condemnation than praise. As it is, the severe simplicity of the monument accords so well with the subdued pathos with which we cherish the memory of our gallant dead, as to evoke a fairly general request for a replica in stone to be set up permanently in Whitehall. This seems to be a purely popular demand, and it does not appear that artists show much enthusiasm for it. In their opinion, the design, while it certainly served an emotional and ephemeral occasion quite satisfactorily, is not of sufficient æsthetic interest to justify its reproduction in stone for permanent occupancy of the present site, where, whether or not it would be, as some allege and others deny, a serious obstruction to the traffic, it would be somewhat incongruous and intrusive. As a sad note amidst the general rejoicing it served its purpose of effective contrast quite admirably, but it may be doubted whether the design possesses enough intrinsic interest to survive the immediate occasion. For one thing, the monument should be much larger; in which case the middle of a busy street would be no place for it.

"The Palace that Nash Built."

Under this heading an evening contemporary observed last day: "Of the ten thousand people or so assembled in the grounds of Buckingham Palace this afternoon one wonders how many could say who designed the Palace or for whom." It is on to say that Nash made the designs for "the new Palace in 1703," a hundred and ninety years ago, and that as its estimated cost aroused considerable resentment against George IV. the designs had to be "very considerably revised." The contemporary does not mention that Blomfield built the east part, but it avers that it was King Edward who said that "The east part of the front of Buckingham Palace is at the back." Many architectural minds the Palace is inalienably associated with "the boy Jones," an apothecary's apprentice who acted a passion for concealing himself in Queen Victoria's apartments. Three times he was routed out and mildly

punished, and at length Lady Sandwich was provoked to write: "He must undoubtedly be a descendant of In-l-go Jones the architect." That passed for wit in 1841; so also did the desolating statement that Buckingham Palace was the cheapest of all Royal residences, as it was built for one sovereign and furnished for another.

Housing: London Moves at Last!

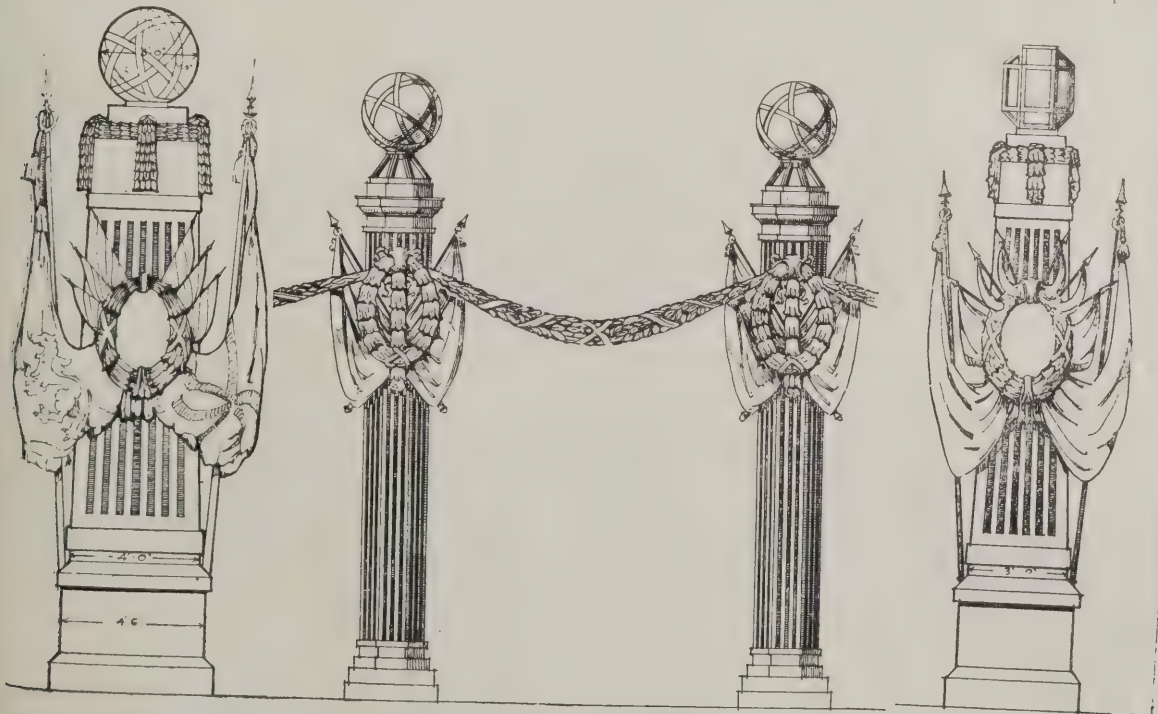
Almost simultaneously with the announcement that the Corporation of the City of London is about to spend considerably more than two millions on housing comes the further welcome news that the Minister of Health has intimated to the London County Council his willingness to approve a scheme for the laying out as a garden suburb of a part of the White Hart Lane estates at Tottenham and Wood Green. The estimated expenditure is £1,200,000. The housing committee of the Council has recommended the appointment of Mr. G. Topham Forrest, some of whose work we have had repeatedly the pleasure of illustrating, as housing architect, at the salary of £2,000 a year; while Mr. James P. Orr is recommended for appointment as the Council's Director of Housing.

The Question of Cost

An architect friend, whose uncommon skill in draughtsmanship our readers have had many opportunities of enjoying, begs us to concentrate on the question of cost "in this housing business." "We are," he says, in his breezy way, "going to get in an awful mess over this business. It is all very well to get out a nice plan and lay-out. Everything goes well till the tenders come in; then, instead of four or five hundred pounds we are confronted with seven or eight hundred, and the fat is in the fire. If these prices are accepted it means a rent of eighteen to twenty-three shillings per week, which is simply impossible." He thinks that the use of concrete blocks will, as compared with bricks, considerably reduce the cost for materials, and he cites a case in which the blocks came out at £35c as against £54c for bricks. He advocates splitting up the contracts as small as possible, so as to give the workman the idea. "These are your houses; what you make them cost you will have to pay rent on." These are rather promising suggestions, so we pass them on.

"Unity of the Profession."

Too late this week for any comment but the briefest, we have received the very welcome official information that the Council of the Royal Institute has resolved unanimously: "To make a further effort to unify the Profession." On what lines this effort will proceed is for the moment a matter for vague conjecture, except in so far as procedure is indicated—of course but in broad outline—in the President's stirring Message. It may be that the Council's resolution is the first fruit of that Message, which, delivered at the psychological moment and inspired by exactly the right spirit of unity, cannot fail to raise high hopes that accomplishment will follow aspiration.



PEACE DECORATIONS FROM THE MALL AND CONSTITUTION HILL. SIR FRANK BAINES, ARCHITECT.

Peace Sunday at St. Paul's

By MAJOR H. BARNES, M.P., F.R.I.B.A.

As one walks up Ludgate Hill the sight of the spire of St. Mary Magdalene, with its quaint Russian feeling cutting across the dome of Wren's church, makes one wonder a little as to how far Wren's planning scheme with its vista ending on St. Paul's would have been better than the quaint juxtaposition of spire and dome which the retention of the old mediæval straight lines of the City has left us.

St. Paul's, one entered to find no decorations, nothing to mark the moment save the barriers set up here and there to direct the crowds of more or less notable persons to the positions assigned to them.

I suppose we shall never be other than the people we are, and, from some points of view, there is a fineness in the indifference to display which at the end of the greatest struggle in which this country has engaged, finds its rulers assembled in the capital church with never a flag to mark the day from any other Sabbath of the year. One can imagine and one may regret the scene of splendour that could have been attained if some supreme master of colour had been employed to blazon out in the great church with flag and banner and brilliant draperies, the last triumph of a dominant race. It was decided otherwise, and it may be there is a changed temper in these things; it may be that there was less of triumph and more of devotion in the crowd which gathered under the dome of St. Paul's to mark in worship their thankfulness for victory gained.

My seat was near Stevens's monument to the Duke of Wellington, and as I waited for the Royal procession I wondered if any work of art comparable to this would be created to memorise a victory and a deliverance more than even the Iron Duke wrought for this nation.

We have not so many great tombs that there is not room for yet another, but whether it is that the general scale of men is altered, the war has not left us with any one whose hold upon the hearts of his countrymen might be expected to inspire such a tomb.

One is daring to question anything that Wren has left us, but one may wonder if his task were to be done again he would work in quite the same way; there are details one feels he might have dealt with differently.

I looked across the church to where the choir aisles open on the circle of the dome, and something in the double arch, the segmental arch below carrying the balcony over, seemed not, with the main arch above, too pleasing. If one had an interior treatment that combined St. Sophia with St. Paul, what finest effect would be produced! Perhaps some architectural school will set for study such a treatment that would alternate with the great arches leading to choir and transept and nave, a plain wall treatment opening to the aisles through trabeated and columnar openings. This, however, is presumption, and my irreverent musings perhaps happily came to an end by the blare of bands announcing the arrival of the Royal procession.

On their way to meet them passed the dignitaries of the Church, and to one unused to such functions there was much of

interest in the evidence that, while shorn of much ceremony, still some pomp of trappings remains to the high dignitaries of the Anglican Church, which they may fittingly display on these occasions. Bishops and Archbishops, cross and crozier passed down the great nave, and even those unfamiliar with the significance of the symbols carried must have been arrested by the art and craftsmanship they displayed.

Little choir boys in white, almost as cherubic as the carvings in the archivolt of the nave arcade, headed the procession through the West doors, returning awhile followed by the Principal Officers of State preceding Their Majesties.

Under the great sounding board the Archbishop, seen from a distance, a picturesque white patch with broad splashes of colour, brought to mind great preachers of the past: Latimer, Bossuet, Fenelon, preaching to their monarchs. How changed the time, how different the scene!

Music rose and fell, solemn murmurs reverberated through the church, and the service went its way.

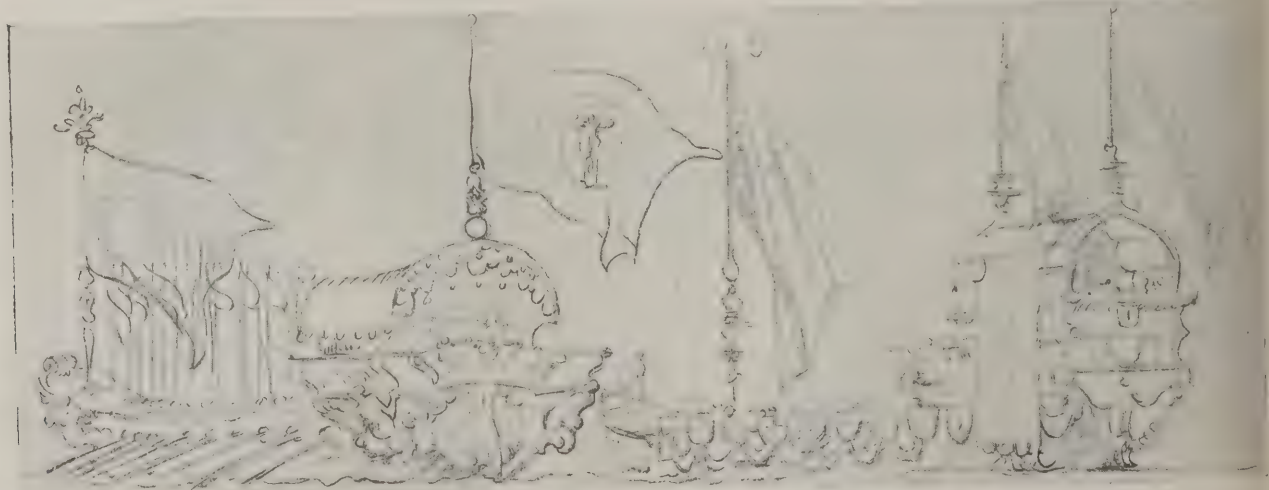
It may be forgiven to one who sat too far to hear the spoken words, if at times wandering eyes rested here and there with interest on the detailed charms of wall and arch and pier: the bayed recesses to the aisle windows, the coffering in the ceiling above with its incised treatment differing from the coffering of the panels in the intrados of the great arches; the details of the bases, the carving to the frieze-molds, all stayed for a moment the attention, till the shattering blast of bugles from the band in the West Gallery of the nave aroused one to a consciousness that the service was over and the Royal procession passing from the church.

Moments of delay followed, occupied by the reiteration of the National Anthem, which came unceasingly through the great doors until at last one found oneself outside in the garden of St. Paul's nestling on its Northern side, with its freshness and greenery characteristic in its surprise of this great City of contrast, where trees flourish in crowded streets, and within a minute of the hurry of the Strand may be found the peace of the Temple Gardens.

The Temple Gardens recall me to the fact that the gateway to Middle Temple Lane was designed by Wren, and also to the impression that even that great architect was not altogether free from the limitations under which many a lesser man suffers, of not realising to the full what his design in elevation will be when it appears in perspective.

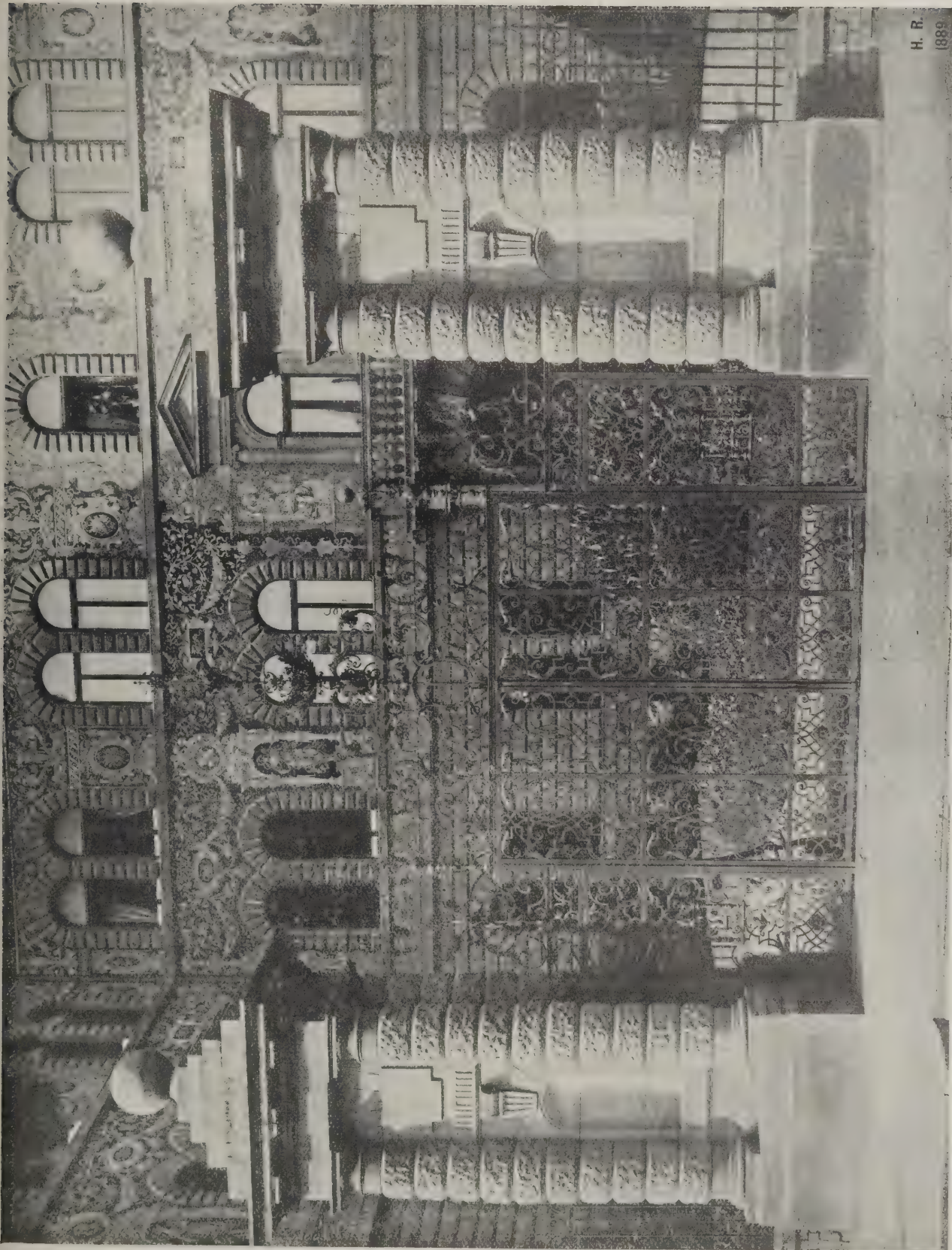
I think the cupolas of St. Paul's look better from the front than on the angle, and what is true of so great a feature of a church seems also true of lesser things; the pilaster caps of the main piers leave me with the same impression.

Well, let it be so, to encourage us by reminding us that the greatest are not gods, but men, and that in the future there may be, as in the past, those who, on supreme occasions, rear such monuments, making themselves immortal by the works they leave behind.



THE FORTHCOMING THAMES PEACE PAGEANT: SUGGESTIONS BY FRANK BRANGWYN, R.A.

The original sketches show two State barges, gay with colour; on the left, a blue and yellow vessel with red flags and a red canopy over the poop; on the right, a vermilion barge with green garlands between bright-hued shields.



RAILWAY STATION, BUDA-PESTH: DETAIL OF GATES. GUSTAV PETSCHACHER, ARCHITECT.

Architectural Causerie

UPON looking over the letters of my correspondents two or three mornings ago, I found one from a gentleman asking us to advise him regarding the type of door-knocker needed for a house recently purchased in a country town five miles from the place where Hick's Hall formerly stood. A pretty sort of conundrum requiring both knowledge and tact in its solution. I shall therefore take the subject of door-knockers into my consideration: and the more willingly for in my ramblings I have frequently chanced upon many strange misuses of this striking feature.

* * * *

Most people pay little attention to the style and expression of a door-knocker, and would be surprised if they were told that the Greeks used knockers in the form of rings on the doors of temples, as Old Homer states: "Silver the lintels projecting o'er, And gold the ringlets that command the ear"; that the Romans designed a very modern-looking knocker such as the head of a fearsome lion holding a ring in its mouth; and that research at Pompeii brought to light an instrument in bronze something like a pestle of a mortar, and suspended to a door by a chain, with a large ring like a bit for the pestle to strike upon.

* * * *

Numerous examples of door-knockers survive from medieval times. Of these are the rings, by which the latches were lifted, serving as knockers, a large nail being driven into the door for the ring to strike on. In this fact will be found an explanation of the common phrase in old books "he knocked at the ring"; perhaps the modern legend "Knock and Ring" will, in view of this revelation, be regarded with more respect. The best examples of the martello di posta belong to the Italian Renaissance, when the fancy of the craftsman had free play in expression, and the curious tradition of the goldsmiths

caught some part of the architectural qualities of the buildings. Shakespeare was acquainted with specimens of door-knockers in Warwickshire. Perhaps he was impressed by their significance when he was haled before the justice at Charlecote, a fact remembered in the "Taming of the Shrew" when Petruchio and Grumio arrive before Hortensio's house in Verona. In England during the seventeenth century door-knockers of various types were produced to embellish entrance doors, particularly in the towns. These ranged from the simple ring types to those formed like the heads of lions. In France the design of the heurtoir proceeded on more showy lines. There was the tradition of Cellini to work upon, and many a strange conceit appeared in metal, as Bury shows. The lion's head became the accepted symbol, both ornamental and useful, embellishing the doors to the strongholds of Englishmen about the time Dutch William took up his domestic pleasures at Hampton Court, and, finally, while Queen Anne sipped tea Isaac Beckerstaff published No. 105 of the "Tatler," including the notes given in the next few lines: "A very odd fellow visited me to-day at my lodgings, and desired encouragement and recommendation from me for a new invention of knockers to doors which he told me he had made, and professed to teach rustic servants the use of them. I desired him to show me an experiment of this invention; upon which he fixed one of his knockers to my parlour door. He then gave me a complete set of knocks, from the solitary rap of the dun and beggar, to the thunderings of the saucy footman of quality, with several flourishes and rattlings never yet performed. He likewise played me some private notes distinguishing the familiar friend or relation from the modish visitor; and directing when the reserve candles are to be lighted. He has several other curiosities on this art. He waits only to receive my approbation of the main design. He is now ready to practice to such as shall apply themselves to him; but I have put off his public licence until next court day. N.B.—He teaches under ground."

* * * *

There is one type of door-knocker that makes an especial appeal to lovers of the days when Hogarth limned and Fielding, after business hours at Bow Street, compiled "Tom Jones" in the evenings; it is that curious form of console knocker, known in some quarters as the Doctors; for what reason no man knows. We find traces of it in Mayfair; it is possible that Dr. Heberden had one fixed to his door in Pall Mall; that Joseph Andrews was familiar with its thunderous announcement of visitors to his fashionable lady. Made of brass, gigantic in proportion, it requires not a little physical effort and a great deal of courage to use it in the proper way. This type, together with varieties of lions' heads, both brass and iron, continued to employ generations of footmen and link boys from the spacious days of Anne until Tom and Jerry wrenched the insignia of dignity from the stout doors in emulation of the pranks of the noble owner of Carlton House.

* * * *

Towards the third quarter of the eighteenth century the braziers of Brum were busily engaged in preparing wares of more delicate outline. Adam and his brother were sketching knockers, evolving vases and festoons to please the fashionable ladies of London; the Wyatts were watching the doings of the men from the north, and every considerable ironmonger in the Strand and Cheapside was rearranging his stock and ordering in a gross or so of the latest pattern of door-knocker. On occasion, Adam could produce a particularly dignified specimen such as the knockers to the gates of Lansdowne House in Berkeley Square. It is possible he took an idea from the remarkably fine ones designed by Kent for Devonshire House near by. In my opinion a finer knocker than Kent's has never been cast. No wonder Holland, with his new-fangled Græco-Roman, was constrained to produce the head of Minerva fashioned as a door-knocker. He gave the lead to Leverton, and so fashion received another fillip. Only the most distinguished of the London houses sported the head of Minerva; twenty or thirty years later the builders of Guildford Street seized upon this model for their work, but they could not afford bronze and had recourse to cast-iron.

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Soane favoured many types, ranging from lions' heads to those of Egyptians; and well into the 'twenties the practice of imparting a quasi-Empire style to the outline of the door-knocker continued. I have rather a fancy for the knockers designed by George Maddox, and quite an admiration for the metal work of Vulliamy. The mere catalogue of door-knockers and their variety is appalling. There are the brass and iron



ITALIAN BRONZE KNOCKER, 16th CENTURY.

knockers of Wendover, the lions' heads, vases, and sphinxes of St. Alban's, the iron masks of Exeter, and the noble rappers of Rochester. Every Cathedral City has a distinguishing regiment of door-knockers, marking the houses of minor canons and other ecclesiastics. If I had a London Directory of 1785 before me I could turn up the names of the Royal Academicians then living in Berners Street, and guess at the type of knocker enriching their individual doors, and I could repeat the process from Curzon Street in the West to the mazy labyrinth beyond Wellclose Square, east of the Tower of London. Frequently in my ramblings abroad I note the productions of the Carron Company cast in the 'thirties, a goodly crowd of dissenters still adhering to Paganism, as witness the diminutive head of Mercury with a particularly lengthy striker, the arms of which depend upon the swivel on either side. Then I chance upon the head of a ram, "all done in cast-iron," a sure sign that the district is a populous one, for this particular knocker is peculiar to the small houses and cottages of the early industrial age. Sometimes my eye catches a door-knocker formed with an oval centre of brass, in which, partly obliterated by the application of aquafortis, can be traced the name of a long-vanished tenant.

* * * *

And so as I wander about in speculative mood, nothing enables me to estimate the character of the people, past and

present, nay, even the features of the reigning monarch, co-temporary or otherwise, more than the appearance of the furniture to the front door. A door-knocker is calculated to inspire even the boldest with awe. First we view it with suspicion, much as the Egyptian in doubt approached the sphinx; secondly we use it; and in the interval of knocking and waiting try to read the character of the person on whom we are calling. The jolly old lion-faces of the eighteenth century are passing. You were always sure of a welcome behind such doors; the fiercer lion masks of the legal district are more tenacious; there are still a few Empire knockers in the neighbourhood of the Foundling, and a greater number of wreath and hand variety in the decaying parts of Camden Town. I have seen the brass knockers of Spalding, especially those on the doors of old-time ladies' schools; the iron and brass strikers of King's Lynn, with the brazen numerals over and the learned knockers of Oxford and Cambridge (particularly the quaint one that is a rebus on Brasenose) which protect the Dons by reason of their forbidding aspect. Some time ago I investigated Belgravia and found few of the houses fitted according to tradition; even the Victorian bell-pulls had given place to electric pushes. So pass the glories of the world, but for my part nothing shall ring the head of Minerva from the centre style of my front door.

AERO.

A Message from the R.I.B.A. President

ON taking the chair at the first Council meeting of the session of the Royal Institute, the new President, Mr. John W. Simpson, delivered the following address:

Because time presses, and because the traditional address from the chair may, I think, be more usefully devoted to matters which interest laymen than to our internal affairs, I venture to anticipate the formal opening of our session in November next, and to say a few words to my brother architects at this moment of national triumph.

I want, first, to tell you with what diffident misgiving of my own fitness—with what sincere humility—I have accepted your call to preside over this great and famous Institute. To carry on the tradition of the immortal chiefs—Cockerell, Tite, Gilbert Scott, Street, and others—who have preceded me in this chair, is a task far beyond my competence, unless the whole-hearted support of my fellows comes to my aid.

Reform.

We of the new Council assume office at a culminating point in the world's history. Peace has just been signed; the old order changeth—nay! hath changed—and giveth place to the new. Our responsibility to our brethren at this critical moment is very great. There are urgent matters to decide; the profession, like the world outside it, is vocal with a vague discontent. Part of this is doubtless psychological, due to nervous impatience with the slow return to equilibrium of vast social forces displaced and shaken by the war; but there is also an instinctive, and, I believe, sound perception of the fact that restoration to pre-war conditions will not satisfy our needs. There is a desire for closer internal union; we are asked to take steps for the consolidation of our interests, and for their effective protection; it is urged that we should secure a fuller measure of public confidence and esteem for our profession.

To these demands I believe it our clear duty to give most sympathetic attention, bearing always in mind that while our first duty is towards our own members, who have proved their quality in the ordeal of examination—and especially towards those who have served and fought for us—yet the best and highest interests of this Royal Institute are those of the State. No selfish policy, seeking private advantage at the expense of the community, can either succeed or endure.

The New Charter.

The moment is opportune for reform, since in the forefront of our programme for the session is the procedure with regard to a new charter, which was arrested by the outbreak of war. This charter, I may remind you—whose outlines have already received the sanction of the general body of members—provides for the establishment of a register of qualified architects administered by a Registration Board, and for a revised constitution of the Council. I have refreshed my memory both as to the principles it embodies, and as to the debates which led to their settlement. It appears to me a wise and statesmanlike measure, and the Council will undertake at once the duty of drafting it with a view to its submission to the Privy Council and its definite approval by the general body. They will also consider

whether other reforms in our organisation might not be incorporated in this document; with the assent, of course, of the general body.

Meanwhile, let me declare that we of the Royal Institute proffer goodwill and help to all architects, whether within or without our incorporation. Already, as I have said, we have determined on a substantial measure of reform. To attempt to grasp at once all that some of us want, might mean the loss of much that we have; we must not divide this noble Institute by undue anxiety to satisfy a section. If we are to make of it a profession a homogeneous structure, we must build from the base upward, from within outward; adding stone to stone with cautious care that each is rightly and soundly placed. The first step to unity is a Council solid as to its policy, and steadily pursuing it. I have confidence that the members will support the considered judgment of those whom they have elected to represent them; and there will be no loss of time in preparing it.

Publicity.

An essential condition of unity is the interest of members in the work of their Council and Committees. We publish, it is true, a statutory annual report, a rather formidable document, some of whose miscellaneous contents are necessarily out of date, others apt to be overlooked in the crowd of items. But some better way is needed to keep members in constant touch with their affairs; Parliament itself would be forgotten if proceedings were not promptly reported. The "Journal" is our permanent official record, and this, for many reasons—common among them—can only appear at comparatively long intervals. I have received the most cordial and generous offers of help from the Press; and propose to furnish the editors with the fullest information available, as occasion arises. Some of the matters with which we have to deal are of a confidential and delicate nature, and we do not wish our members to withhold their difficulties from the Council for fear of publicity; but with the assistance of the vice-presidents and secretaries I shall hope to avoid indiscretion.

The Dinner.

Not unconnected with the desire for closer internal contact is the general feeling that we should return to our former practice of holding an annual public dinner. A festival of this kind is a most valuable means of bringing members of the Royal Institute into personal friendship one with another, and, incidentally, an occasion for honouring distinguished public men to whom we are indebted for advice and support. In any event, whether we dine together or prefer some other form of entertainment, we shall take the opportunity of making it a public acknowledgment and welcome to our members who have served in His Majesty's Forces.

Country Members.

This personal intercourse of members is of great importance. It is asserted that the public "knows the names of twenty painters where it knows the name of one architect"; the fact is that we do not know each other as we should, and part of the prevailing apathy with regard to our affairs is a conse-

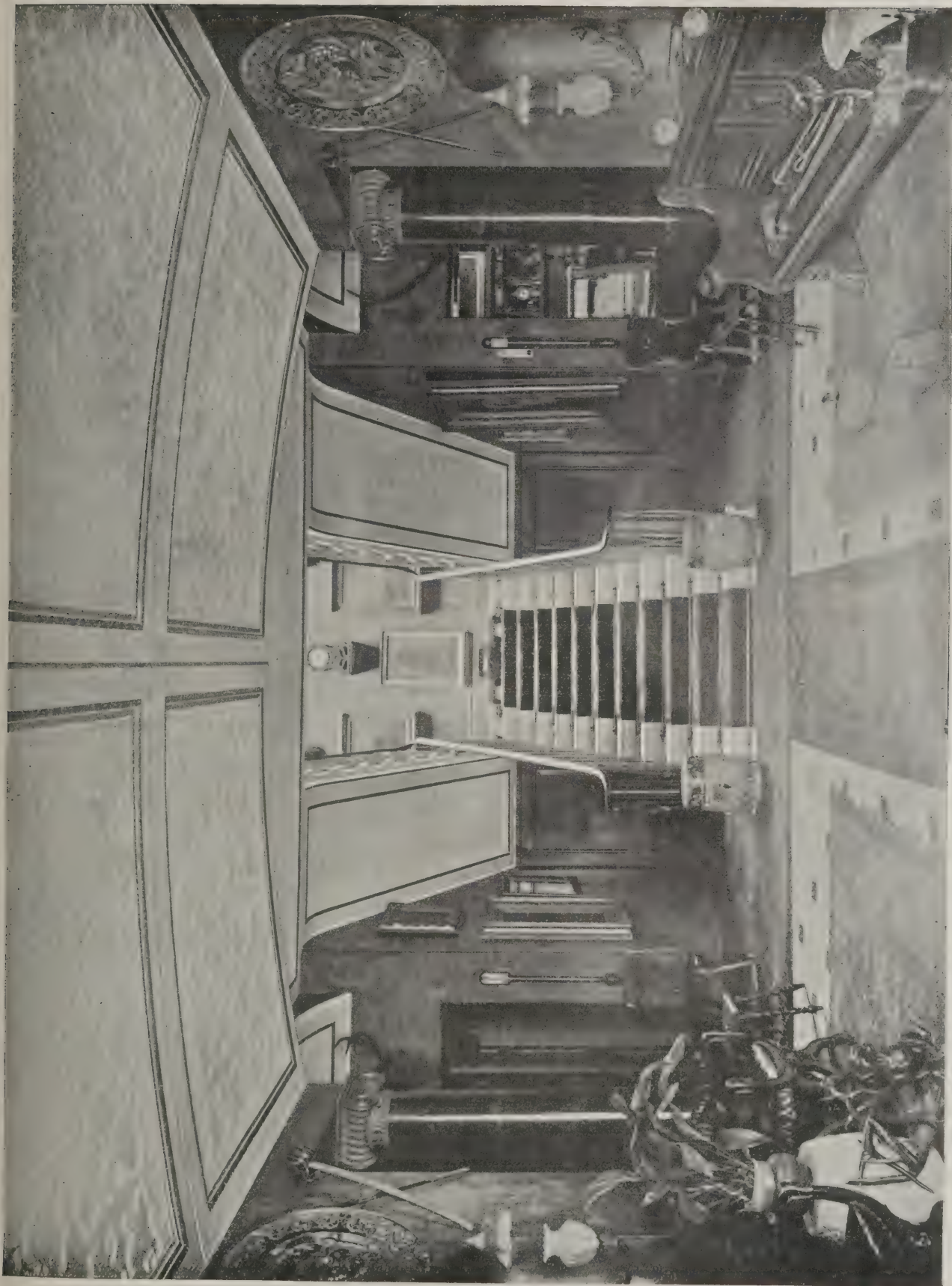


Photo: C. L. Gill, F.R.I.B.A.

"STONELANDS," DAWLISH. JOHN NASH, ARCHITECT.



"STONELANDS," DAWLISH. JOHN NASH, ARCHITECT.

Photos: C. L. Gill, F.R.I.B.A.

ence of it. In particular, the relations between London and country architects need strengthening: their conditions vary in many ways, and sympathetic understanding comes only from mutual knowledge. It will be, I consider, my duty, as well as pleasure, to visit all the allied societies—or as many as may be possible—during my term of office; not to deliver formal addresses, but to meet their members in friendly conversation, and learn their special difficulties and needs.

Official Architects.

The relation of those of our members who have accepted official positions to those in private practice, also claims our attention. For the moment I need only say that, whatever exception may be taken to the system under which they work, they themselves enjoy equal consideration and honour with their brethren. They are with us and of us; it is for us to assist them in every possible way; for them to support the Royal Institute with all loyalty, and work for the common interest.

The "Journal" and "Kalendar."

I have already mentioned our "Journal." This was, before the war, a production of considerable permanent value; its survival, and that of the "Kalendar," is now being considered. Members receive these gratuitously; they rightly attach importance to the privilege, and while they have acquiesced in its partial withdrawal during the war, they are now naturally looking for its restoration. How far we can go towards renewing the former high standard of these publications must depend on the funds available. The "Kalendar" could, no doubt, be much reduced in size, and still remain a valuable handbook. Every member must receive a copy of the charter and bye-laws on his election, and it may be most convenient to print these in the "Kalendar"; but a great deal of permanent matter could be printed as separate pamphlets, and charged for.

Education.

The Board of Architectural Education is now a powerful body, ranking as a cousin, almost as a sister, to the Council. This board, under its gifted chairman, Mr. Waterhouse, will, no doubt, direct its mind to the suggestions which are being made for widening the education of architects on the financial and scientific side of the profession. The mind of the student is receptive, and his frame elastic; his position nowadays reminds me of those contumacious prisoners, on whom there is ordered to be laid "so great a weight as they could bear—no more"; but his indomitable spirit will doubtless sustain an added load, and his reward will come when he enters into a kingdom of practice.

The Library.

The Institute, I think, hardly appreciates as it should the wonderful library it possesses. It is certainly not used as so good an instrument should be in connection with our educational work. As a beginning, our librarian has promised to give us an address on the contents and the functions of such a collection, and to develop his paper later on into a guide to its treasures and their use. A special notice will be sent to students inviting them to attend this lecture.

Civic Survey.

In connection with the sessional papers, the Council has asked Mr. Newton, whose work and that of his colleagues in connection with the subject merits our hearty gratitude, to give us an

account of the civic survey work, and the use to be made of the mass of valuable drawings and documents which have been compiled.

Finance.

The subject of our finances must have careful consideration, and two or three of the clear heads on the Council will report to us, as soon as may be, as to what income is available for expenditure, after providing for the permanent charges and outgoings; with any recommendations they may wish to attach thereto. Activity, I fear, generally connotes increased expense, and there is no doubt that our resources reflect the great privations of the profession during the war. On the other hand, an energetic policy may bring financial, as well as moral support.

The question of sanctioning the formation of an Indian branch of the Royal Institute will be submitted to the Council. If such a proposal meets with approval, it will probably prove a source of increased revenue.

It is most desirable that qualified Associates and Licentiate should proceed to the Fellowship class, and I earnestly direct their attention to this matter. In the case of Licentiate, I understand that some, whom we should be glad to welcome as full members, are deterred from submitting their work by a modest fear that they may be deemed unworthy, and that failure in the required examination might injure their professional position. If any of these care to send their credentials to me in confidence I shall be most happy to advise them as to their prospects of success.

Professional Conduct.

It has long been in my mind that a definite code of professional conduct would be very helpful to our younger, perhaps to all our members. Such a code, drawn up by Guadet on behalf of the Société Centrale des Architectes Français in 1895, has been adopted by every society of architects in France; and a draft on similar lines will be laid before you for approval in due course.

Street Architecture.

"The advancement of civil architecture" is the statutory duty of this Institute, and at the instance of our late President I drafted for consideration a proposal for its direct encouragement by offering a bronze medal every year for the best street façade. A similar award, as you are no doubt aware, is made by the Corporation of Paris, who recognise the owner of the property premiated, as well as its designer, by an abatement of one-half of his frontage dues; both the distinction and the concession are highly appreciated. Owing to the sub-division of our civic authority into corporations and boroughs, it may not be practicable to achieve this, but I am confident that both the City and the County Council of London, no less desirous than their sister Council on the Seine of improving the beauty of their city, will be willing to co-operate with us in some similar way. Although I have spoken of London only in connection with the award, we may hope, with the aid of our allied societies, presently to extend the principle to the other chief cities and towns of the Empire. I commend the idea to their favourable consideration.

Peace Decorations.

As a Royal Institute, it will be proper to indicate our loyal thankfulness for the conclusion of victorious peace by suitably decorating our house on the 19th inst., and Professor Beresford



THE FORTHCOMING THAMES PEACE PAGEANT: SUGGESTIONS BY FRANK BRANGWYN, R.A.

This rough sketch shows the great Peace float and Neptune riding a dolphin. The colour scheme is gold and bright blues and reds; all the figures are gilt, and two-and-a-half times life-size. The dolphin and tritons are designed for motor launches.

Pite has been good enough to undertake the design and execution of the work. [Illustrated below.]

Building Conditions.

The condition of the building industry touches the profession closely. Hostilities were suspended eight months ago, peace is now concluded, and the trade remains paralysed. It is imperative that life and motion be restored without delay, and it is for us to take a leading part in that restoration. We have already, as you know, set up a Building Industries Consultative Board, composed of builders, surveyors, operatives, and architects, of which your president is chairman, and Mr. Lloyd, of the National Federation of Building Operatives, vice-chairman. The single interest of architects and surveyors is to get the machinery of building into active operation; they are quite disinterested as regards the special views of either employers or employed. By bringing together all four classes of workers we hoped to create a body—less formal and more elastic than the official Whitley Council, but in touch with it—where professional men who have the confidence of the two executive groups, might join hands with both. That this confidence exists was shown by the unanimous choice of the chairman; and the first meetings have produced wholesome and open discussions of great promise. I hope that your delegates may soon be able to report progress to the Council, and have the benefit of their direction as to future initiative.

Housing.

As regards the special work of housing, the needs of the State will certainly be given precedence of all private demands; the latter will, therefore, be satisfied only at enormous cost, unless we can succeed in re-establishing a proper economic proportion between wages and production. The architect may be certain that the amount of work which lies before him, in connection with housing, is prodigious. We are as yet only on the fringe of the problem; and members of the profession owe more than they perhaps realise to my predecessor, Mr. Hare, for his persistent efforts to secure proper recognition for them by the Government. The policy of the Royal Institute is directed to procuring for the State Housing Scheme the maximum output of building in the shortest possible time; and to securing the employment of all qualified architects who have served in His Majesty's forces, by a wide distribution of the work of design and superintendence. A Central Consultative Board has been formed, and is already at work, with a view to assisting county and local authorities by their advice both in the selection of architects and in the preparation and execution of their schemes. It is hoped that the Ministry of Health may officially endorse the Royal Institute scale of charges, and accept our proposals for carrying out the larger schemes by groups of executives, each group being under the general direction of a superintending architect. The board is also considering the means of entrusting a limited amount of responsibility in connection with such groups to specially trained students.

International Amity.

The great importance of preserving the friendly relations which exist between the Royal Institute and our brethren abroad has not been forgotten. We realise that we may possibly be called upon to combine in one of the greatest building schemes in history, and I have been authorised to send in your name a telegram of greeting and congratulation, on the occasion of our first Council meeting after peace has been signed, to the societies of France, to the American Institute, and to our branch societies across the seas.

The foregoing outline by no means exhausts the subjects which will, I hope, occupy our attention during the forthcoming session. The formation of a Parliamentary group, whose vigilance should guard our beloved art when legislative proposals might affect it, has already the sympathetic approval of Major Barnes, M.P. The Royal Institute may be privileged to take the initiative in an even wider-reaching scheme for mutual assistance and protection in the uncertain times before us.

Procedure.

A word on procedure before I conclude. The Council has accepted a proposal to reduce its Committees to a minimum; we do not want to squander the time of busy men on any but strictly necessary meetings, and we have been too much in the habit of referring troublesome matters to special committees, instead of dealing with them directly and at once. On the other hand, we propose to strengthen our great Standing Committees, and give them more real responsibility than heretofore. To this end we have, in exercising our power of appointing additional members to them, placed on each a vice-president who will represent his own Standing Committee on the Council and support its proposals and reports. The position of vice-president is one of high distinction and should be fully recognised. The four gentlemen who hold that office take a leading part in the work of the Institute, and there is a corresponding call upon their time. I must rely much upon them for

support; as Aaron and Hur held up the fainting hands of the chief, so it is for them to prevent the weakness of their President from becoming too apparent.

"R.I.B.A."

This Royal Institute of British Architects to which we belong is a splendid and a famous organisation. It governs practically all properly qualified architects throughout the Empire; there is no other architectural society in the world which approaches it in scope and completeness; it is the envy and admiration of our foreign brethren. Every member may be proud of his allegiance to the Royal Institute; and the measure of his own enthusiasm will be found in the common animation it inspires. That there should be criticism of the Council is right and proper; "a reasonable amount of fleas," said the American humorist, "is good for a dog; keeps him from worrying 'bout being a dog!" But let lookers-on remember that they have freely elected the team which is playing for them; clap their hands for its successes, sympathise in its failures, and encourage it to try again.

For the Council itself stands the great device: *Fais que dois advenir que pourra!*

The Plates Described

Main Staircase, Pitti Palace, Florence.

SO clear an advantage accrues from what may be called the legibility of outline drawing that its more general adoption in architectural schools may be confidently anticipated. Brunelleschi designed the Pitti about 1440, and its most remarkable quality is its noble simplicity. (Pages 250-251.)

Detail of Gates at Railway Station, Buda-Pesth.

This plate is published mainly in the hope that it will excite emulation in those architects who, with the coming huge development of our transport service, will have to design many railway stations. They cannot all be as monumental as that shown; but some of them may. (See page 139.)

"Stonelands," Dawlish.

The chief interest in this Nash interior (shown on page 143) is that it is very little known, and that Nash interiors are seldom left so completely undisturbed. (Exterior views are shown on page 145.)

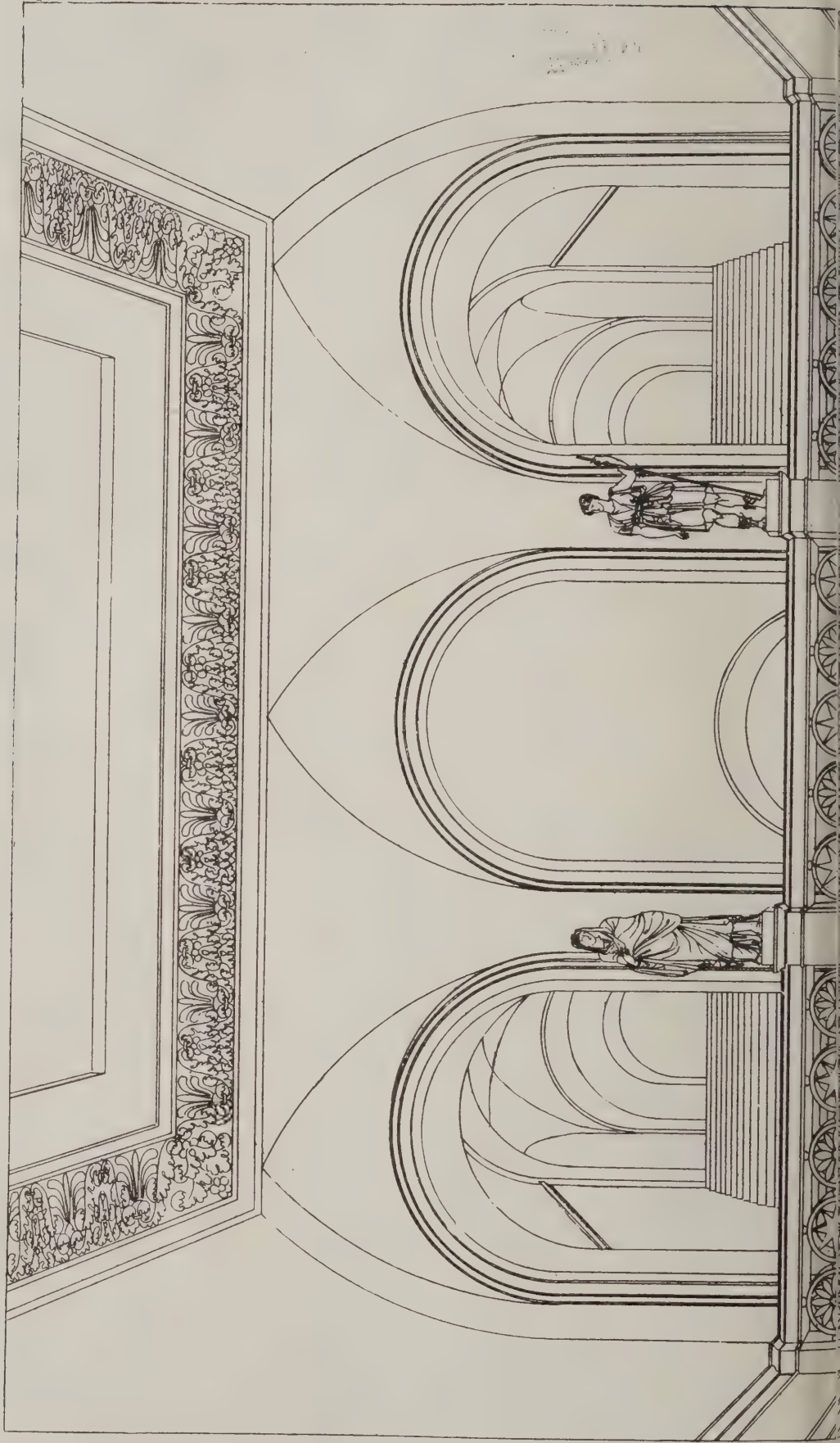
School at Rosyth.

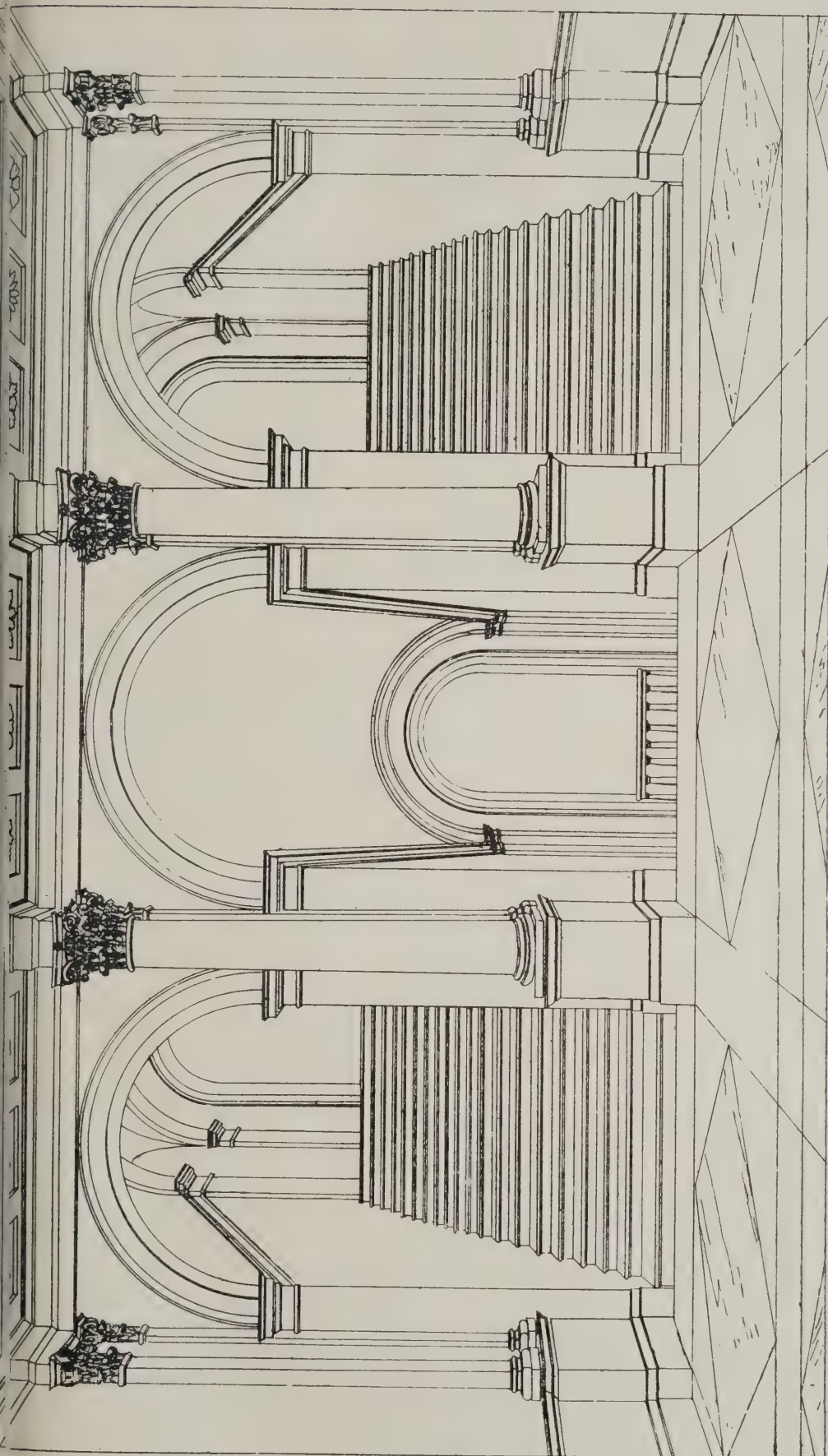
School building has been so long in abeyance that it is exhilarating to see this example from Rosyth, which in planning and in design shows considerable freshness. (Page 155.)



PEACE DECORATIONS AT 9, CONDUIT STREET.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS





PITTI PALACE, FLORENCE: MAIN STAIRCASE.

(From a drawing by Famin and Grantjean.)

LIBRARY
OF THE
UNIVERSITY OF CALIFORNIA

The Deflection of Beams due to Unsymmetrical Loadings

By PERCY J. WALDRAM, F.S.I.

(Concluded from No. 1281, page 124.)

It has already been shown that the deflection at any point is numerically equal to the bending moment caused by a hypothetical loading of actual bending moments $\div EI$.

Therefore, a diagram be constructed of actual bending moments due to any loading to a vertical scale of y units of bending moment to 1 in., and a linear horizontal scale of x inches to 1 in., a second bending moment diagram constructed from this hypothetical loading

to measure deflections to a scale of $\frac{x}{EI}$. A convenient method of doing this is by means of funicular polygons. In Fig. 1 an actual girder is drawn to a scale of 2 ft. to 1 in., or $x = 24$. The loads are set down on a polar diagram to a scale of one ton to 1 in., and a polar distance of 1 in. is taken. The bending moment diagram

will therefore represent inch-tons to a scale of $24 \times 1 \times 1 = 24$ inch-tons to 1 in. = y . This BM diagram is then divided up into strips of a width of $w = \frac{1}{2}$ in. The central ordinate of each strip $\times w$ will therefore represent the area of the strip.

A second polar diagram is then drawn in which the central ordinate of each strip is treated as a load, and set down to any convenient scale such as one-fourth of the scaled ordinate or $y = 24 \times 4 = 96$.

A funicular polygon drawn to this would represent hypothetical bending moments to a scale of $X \times y \times W \times Ho$. Its ordinates will represent the actual deflections to a scale of

$$\frac{X^2 \times y \times W \times Ho}{EI} = \frac{24^2 \times 96 \times .5 \times 4}{12000 \times 20} = .46 \text{ in. to 1 in.}$$

In Fig. 2 the maximum BM, due to the eccentric load of 1 ton, is 228 inch-

tons. This is set up to a scale of $\frac{1}{2}$ in. = 228, and the triangular BM diagram is drawn direct and divided into $\frac{1}{2}$ -in. strips. The hypothetical loads are set down to half size, viz., to a scale of 1 in. to 1152 = y . A polar distance of 2 in. is taken and a funicular polygon is drawn in the usual way. In order to measure vertical ordinates more readily they are transferred to the span and a fair curve of deflections drawn.

The linear scale X being 24, the scale for measuring deflections will be

$$1 \text{ in. to } \frac{24^2 \times 1152 \times .5 \times 2}{11200 \times 20} = 1 \text{ in. to } .275 \text{ in}$$

Deflection of Beams of Varying Depth.

The graphic delineation of deflection lends itself readily to cases of beams of varying depth, which are otherwise extremely intricate.

It has already been shown that the flange stresses operating in each little strip of the span contribute their quota to the total deflection unaffected by what may be contributed by other portions of the span. Also that this individual contribution depends on the values of BM, E , and I , peculiar to the particular unit under consideration alone. The fact that other portions of the span may be stiffer or more flexible in shape, and may be constructed of more rigid or more ductile material, makes no difference whatever to the contribution to the total deflection made by the particular unit under consideration.

Although bending moment is quite independent of moment of resistance, yet when BM and I combine to affect deflection, any variation of one may be expressed as such a variation of the other as will produce the same effect. In cases, therefore, where I is varying as well as BM, it is convenient to pretend that I is constant by adding the effect of its variation to the BM.

For instance, if over a short length of the span I is doubled, the effect upon the quota of deflection contributed by that

short length $\frac{BM}{EI}$ is the same as it would be if the BM were halved.

Fig. 3 shows a simpler case. AB is a 6 in. \times 2 in., fir bearer 60 in. span, supporting a distributed load of 32 lb. per foot run, under which load it happens to be necessary that it should not deflect more than $\frac{3}{8}$ in. It is desired if possible to taper off 18 in. of the ends down to 3 in. \times 2 in., as shown by dotted lines; and it is necessary to ascertain whether this will make the beam too flexible under load. The E of the material is 1,250,000 lb. per sq. in., and I is 36 over the 6 in. by 2 in. section.

The maximum deflection of the parallel beam will be

$$\frac{5 \times 1920 \times 60}{384 \times 1.25 \times 10^6 \times 36} = .12 \text{ in.}$$

This is first laid down graphically.

It is convenient to calculate the central ordinate of the BM diagram, and to divide up each half of it into four or five strips of width w . The ordinates can then be calculated from an ordinary table of the ordinates of parabolas divided into eighths or

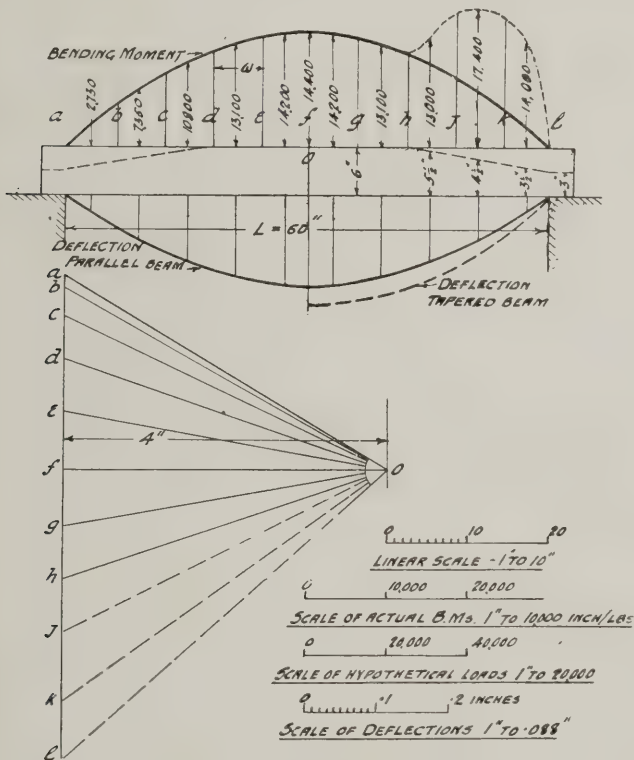


Fig. 3.

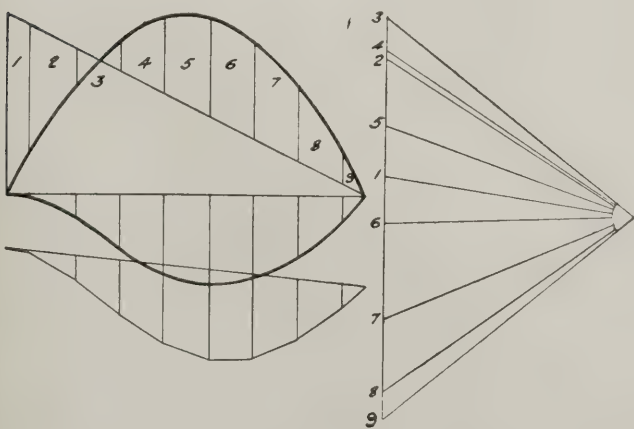


Fig. 4.

tenths. Thus the central BM = $\frac{Wl}{8} = \frac{1920 \times 60}{8} = 14400$ inch-lbs. The first, third, fifth, seventh, and ninth ordinates of a semi-parabola divided into tenths are .19, .51, .75, .91, and .99 respectively of the central ordinate, or 2730, 7350, 10800, 13100, and 14200 inch-lbs.

The linear scale is 1 in. to 10 in. or $X = 10$. The scale of hypothetical loads is 1 in. to 20,000 or $Y = 20,000$; the polar distance is 4 in., and w is .5 in. The scale for measuring deflections is therefore $2 \times 10^6 \times .5 \times 4 = .008$ to 1 in.

The effect of altering the moment of inertia at the ends of the girder can now be ascertained by a suitable alteration of the corresponding ordinates, viz., by increasing the ordinates in inverse proportion to the decrease of I , which will vary as d^3 . Thus:

$$10800 \times \frac{6^3}{5^3} = 13000$$
$$7350 \times \frac{6^3}{4^3} = 17400$$
$$2730 \times \frac{6^3}{3^3} = 14000$$

These ordinates are then used in the polar diagram, as shown by dotted lines, and the deflection curve is drawn as before. From this it is found that the deflections of the tapered girder is .25 in.

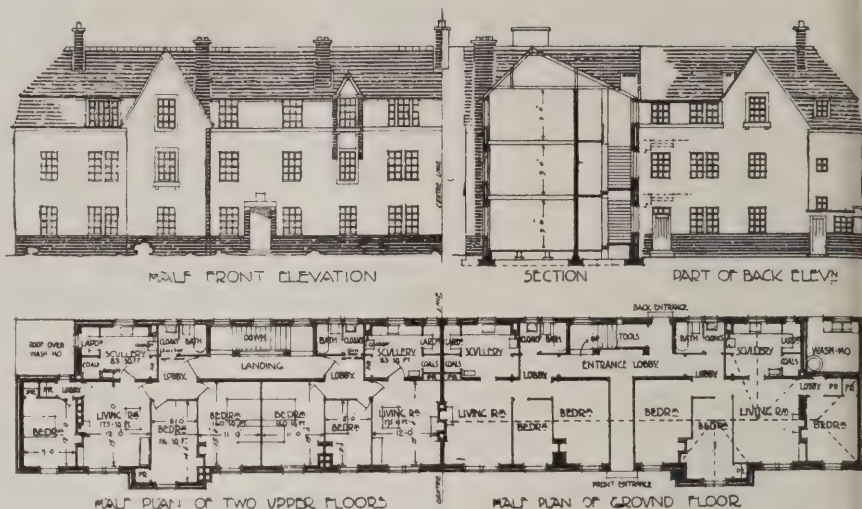
Instead of having a diagram of bending moments, a diagram of flange stresses might have been used and divided by $\frac{Ed}{2}$ instead of by EI . It is, however, more convenient, and, indeed, preferable, to work directly from the BM diagram, if only to emphasise the fact that deflection varies inversely with I , and not merely with flange stress.

Graphical methods are equally applicable to beams with fixed ends or continuous over-supports, provided that all the bending moments, reverse as well as direct, are known.

Fig. 4 shows a typical case. The reverse or logging bending moments are merely measured off on the load line in the reverse direction to the sagging moments.

SCOTTISH WORKING CLASS HOUSES.

The Local Government Board for Scotland have published a manual on "Housing of the Working Classes in Scotland," which contains designs more varied in character than have appeared in any of



SCOTTISH HOUSING COMPETITION: TENEMENT HOUSING DESIGNS.
BY JOHN ARTHUR.

the other official publications on the subject of housing. The designs shown are some of those submitted for the competition authorised by the Local Government Board for Scotland and promoted by the Institute of Scottish Architects. They include, in addition to a lay-out on an irregular site, houses of varying accommodation, and two and three storey tenement buildings. Some of the latter are of particular interest, and for the most part show most careful thought in both plan and elevation, tactfully avoiding the appearance of depression which so often accompanies buildings of this description—indeed, a happy compromise seems to have been struck between the too exclusively rural or urban treatment; pleasing effects having been achieved by the use of such diverse features as the Mansard roof and the horizontal Georgian simplicity.

The letterpress introducing the designs contains some candid criticism, to which there is very little to add. In viewing a number of competitive plans, anyone is apt to look out, perhaps all unconsciously, for his, or her particular fad; the position of the doors, the relation of the kitchen range to the light, the grouping of the flues into the minimum of stacks, the construction of the roof, or the number of cupboards. Our own is economy of plumbers' work, and we feel that more might have been done in this direction. The bathroom in many cases appears to be extravagantly isolated,

but this is a small matter that weighs lightly against the vast amount of usefulness and interest which the publication so happily brought together. H. J. F.

R.I.B.A. TRANSACTIONS.

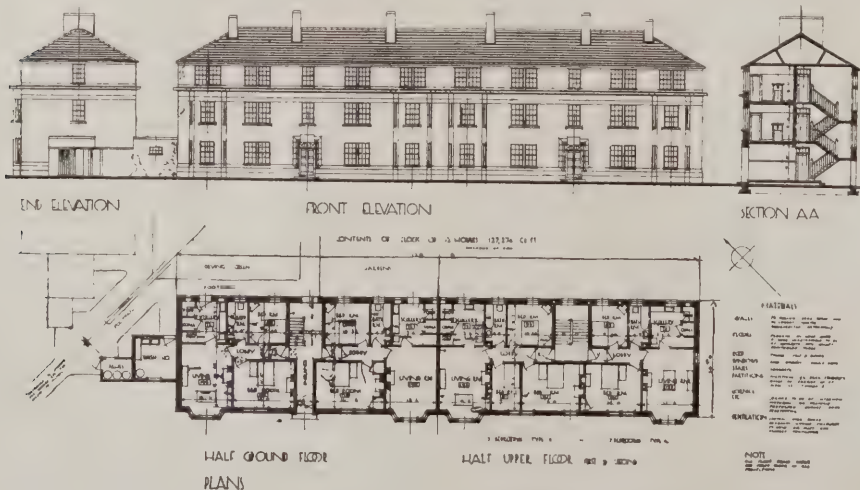
The Condition of the Building Industry.

At the instance of the Royal Institute of British Architects (acting in conjunction with the National Federations of Building Trades Employers and Operatives, Society of Architects and the Surveyors' Institution) a Building Industries Consultative Board has recently been formed in order to investigate the causes of present stagnation in the trade, and organise its activities in view of the pressure which the housing proposals of Government must place upon it.

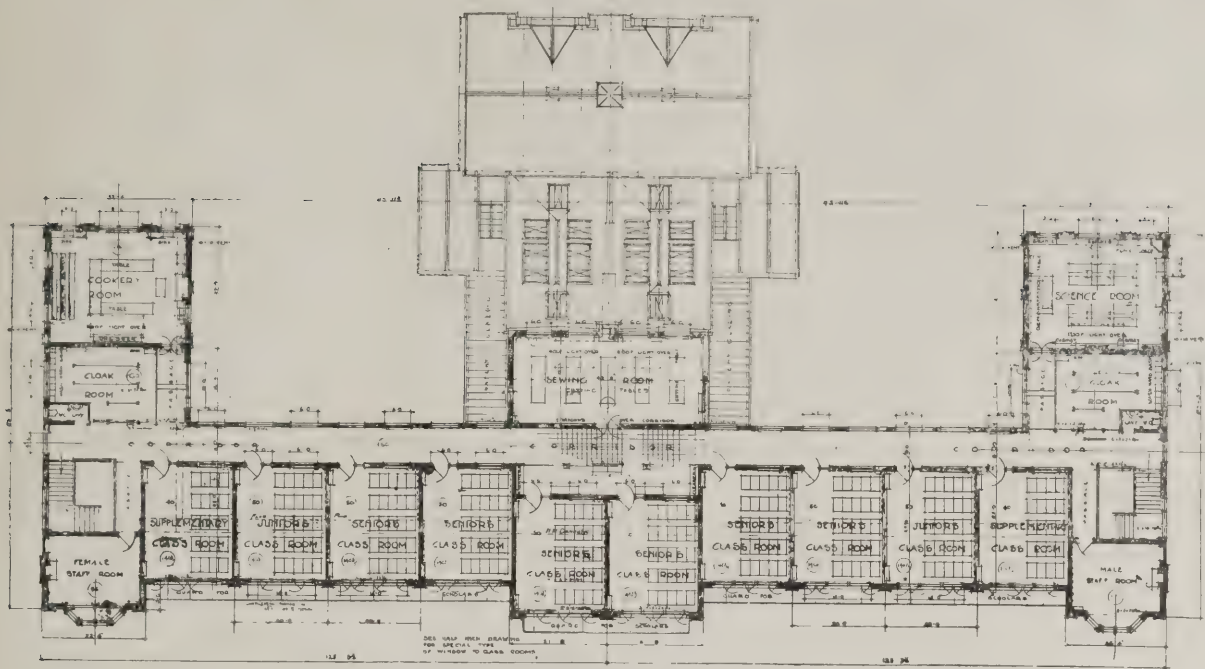
In response to a request for detailed information as to the procedure of the Munitions Ministry with regard to the purchase and distribution of building materials Mr. Kellaway, M.P., Deputy-Minister of Munitions, consented to receive a deputation of the Board at Armament Building on Thursday, the 17th inst.

The deputation, which was introduced by the President of the Royal Institute, John W. Simpson, consisted of Major Barnes, M.P., the President of the National Federation of Building Trades Employers, Mr. J. P. Lloyd (Vice-Chairman of the Board), and the Secretary, J. Murrey; the President of the National Federation of Building Trades Employers, Mr. F. L. Dove, L.C.C., and Mr. E. Hill; Mr. F. H. A. Hardcastle, F.S.I., Mr. R. B. Mann, F.S.I., of the Surveyors' Institution; and Mr. Ian MacAlister, Secretary of the Royal Institute. The deputation was accompanied by Major W. Prescott, M.P., and Mr. J. R. Remond, M.P.

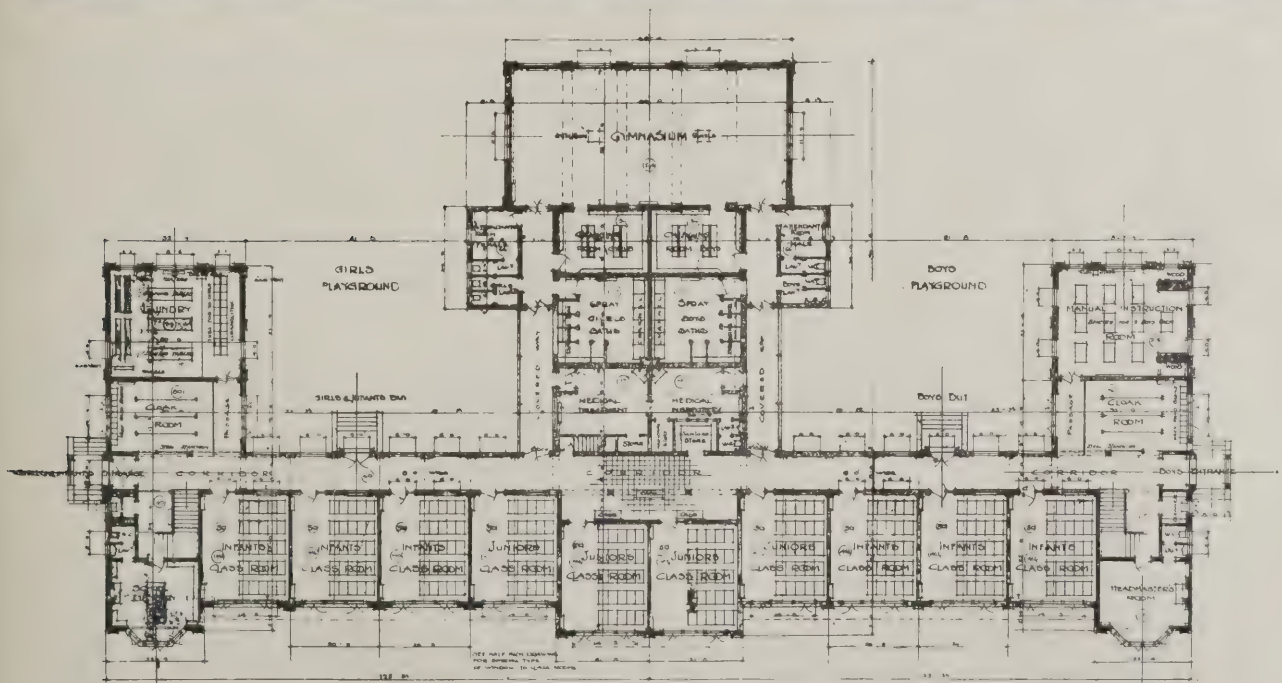
In reply to the deputation, Mr. W. J. Woolcock, M.P., Parliamentary Private Secretary to the Ministry, expressed satisfaction with the action of the Royal Institute in uniting the administrative and executive sections of the Building Industry in a common effort to restore trade activity. He considered that the Board which had been formed might prove a valuable factor in improving the resources of credit of the country; and willingly undertook not only to furnish the members with all the information they required, but place at their disposal the facts and figures relating to the purchase and supply



SCOTTISH HOUSING COMPETITION: TENEMENT HOUSING DESIGNS.
BY JOHN A. W. GRANT.



First Floor Plan.



Ground Floor Plan.

LIBRARY
OF THE
CITY OF ILLINOIS

of materials which have been compiled by the Department.

The deputation expressed their satisfaction with the attitude of the Ministry and their grateful appreciation of Mr. Woolcock's offer to supply the information they desired.

Council Meeting.

At a meeting of the new Council of the R.I.B.A., held on July 21, the question of the unity of the profession was the subject of earnest consideration.

The following resolution was passed by unanimous vote:

"That the Council of the Royal Institute of British Architects is determined to make further effort to unify the architectural profession, and is about to consider the best means of attaining this object."

Peace Greetings.

The following messages were cabled from the Institute on July 14: "Girault, membre de l'Institut, 36, Avenue Henry Martin, Paris.—Veuillez bien faire part du vivant à qui de droit: Aux confrères français, salut! L'Institut Royal des Architectes britanniques vous envoie ses félicitations cordiales et confraternelles pour la lorieuse Paix, avec tous ses vœux pour l'avenir de l'art bien-aimé. Vive la Paix!—SIMPSON, President, Quatorze juillet."

"President American Institute of Architects, The Octagon, Washington, D.C.—The Royal Institute of British Architects salute all American Architects, and send them brotherly greetings and congratulations on conclusion of victorious peace.—SIMPSON, President."

Greetings were also sent by the President on behalf of the R.I.B.A. to the Architectural Institutes of Scotland, Ireland, Canada, Australia, New Zealand, and South Africa.

Among the replies received are the following: "President R.I.B.A., Conduit Street, London.—The Institute of Scottish Architects warmly reciprocates the brotherly greetings of the Royal Institute. Scottish Architects send heartiest congratulations and good wishes on the appointment of their distinguished compatriot to the Presidency.—KELLY, President."

M. Girault cabled the following reply: Paris, le 15 juillet, 1919.—A Monsieur John W. Simpson, Président de l'Institut Royal des Architectes Britanniques.—Mon cher confrère,—Je ne puis vous dire combien nous touche votre télégramme de félicitations. Oui, félicitons-nous les uns les autres, en Angleterre comme en France, de cette paix si attendue qui va vivifier l'art et rendre plus étroite encore, plus affectueuse et plus chaude notre confraternité. Vive l'Angleterre!—GIRAULT, Président l'Académie des Beaux Arts."

INCORPORATED CHURCH BUILDING SOCIETY.

This society held its monthly meeting on Thursday, July 17, at the Society's House, Dean's Yard, Westminster Abbey, W.1, the Hon. Sir E. P. Thesiger, C.B., in the chair. There were also present the Rev. A. G. Ingram, the Rev. R. Powell, Mr. Ronald E. Bill, Sir Edwin Grant-Burles, C.S.I., Sir Cecil Percival Smith, C.V.O., LL.D., and the Rev. T. T. Norgate, F.R.G.S., F.R.I.S., secretary.

Grants of money were made towards enlarging, re-seating or repairing the churches at Bisley, St. John-the-Baptist, Weymouth, £100; Damerham, St. George, Cambridge, £50; Great Eversden,

St. Mary-the-Virgin, near Cambridge, £15; Fordham, St. Mary, Norfolk, £50; Upper Holloway, St. James, Middlesex, £125; Holne, St. Mary-the-Virgin, Devon, £175; Nenthead, St. John, Cumberland, £15; Leonard Stanley, St. Swithin, Glos., £100; and Stepney, St. Matthew, Middlesex, £50. A grant of £10 was also made from the special Mission Buildings Fund towards repairing the Mission Church of St. Alphege, Edmonton, Middlesex. A grant of £250 was paid towards work completed at the Church of St. John-the-Baptist, Portsmouth (Winchester College Mission). In addition to this the sum of £158 was paid towards the repair of thirteen churches from trust funds held by the society.

The election by the Committee of Honorary Consulting Architects of Mr. T. D. Atkinson to fill the vacancy on that body was ratified. The other members of this committee are Sir Aston Webb, K.C.V.O., P.R.A., Mr. W. H. Bidlake, Mr. W. D. Caröe, F.S.A., Mr. Temple Moore, Sir Charles A. Nicholson, Bart., Mr. F. L. Pearson, Professor E. S. Prior, A.R.A., Mr. G. H. Fellowes Prynne, Mr. C. S. Spooner, Mr. Walter Tapper, and Mr. E. P. Warren. This society is the central parent organisation for all work of church building, enlargement, and repair, and for over a century has assisted practically every scheme of the kind undertaken. The committee earnestly appeals to Church people for immediate generous support. A great and increasing number of schemes are coming before the society now, and the funds at the disposal of the committee will soon be exhausted.

SECOND WAR MEMORIALS EXHIBITION.

The Royal Academy War Memorials Committee is making arrangements for the second section of the Exhibition of War Memorials, to be held at the Royal Academy in October and November, 1919, to consist of works or designs for works in any class of art or craft selected by the committee as suitable examples for the guidance of promoters of war memorials. The committee desires to make the exhibition as fully representative as possible of the various forms which memorials may take, and trusts that artists and craftsmen, and also owners of suitable exhibits, will do their utmost to support the scheme by sending works. It is not intended to show works with a view to copying or slavish imitation, but to assist the public in the selection of suitable designs and of qualified artists and to suggest the different forms available for memorials. A bureau of reference will be provided for supplying applicants with information regarding memorials, artists, and craftsmen. Works and designs for works suitable for war memorials in sculpture or architecture, crosses, decorative paintings or tablets, brasses, metal work, screens, stained glass, rolls of honour in vellum, etc., tapestry, or embroidery, will be admissible for selection by the committee.

Each work or design must be accompanied by the name of the designer and of the executant artist. Special committees will be appointed by the Royal Academy Committee for selecting the exhibits from the works sent in. Schemes which are wholly or largely utilitarian do not come within the scope of the exhibition. The committee reserves the right of excluding any work which may be considered unsuitable for exhibition. All communications

should be addressed to the Secretary, Royal Academy, Piccadilly, London, W.1, and intending exhibitors will be sent forms and labels on application. It is hoped that the exhibition may be open towards the middle of October. Each application for forms and labels should enclose a stamped and addressed envelope, and should be sent in during August. Applicants should state the number of labels required. Works must be sent in on either Monday, September 22, or Tuesday, September 23, between 8 a.m. and 8 p.m.

ENQUIRIES ANSWERED.

ATHENIAN (Birmingham) writes: "I should be much obliged if you could give me some idea of the cost per ft. cube of marble, granite, Portland and York stones, and also of bronze and copper at the present time. If available, can you recommend any builders' price book of materials for present-day reference?"

—It is difficult to give any definite information on the subject of prices. First, the state of the market is very uncertain; and, secondly, the prices of each particular material named by our correspondent vary enormously. Thus marble, without allowance for waste or profit, may cost from fifteen to one hundred shillings per foot cube. Portland stone costs about 3s. 6d., and York stone about 5s. 3d. per foot cube. Copper (sheet, bar, or rod) costs approximately £165 per ton. There is no comprehensive price book giving the present-day prices, but Messrs. Lockwood's 1918 "Builders' and Contractors' Price Book" would doubtless prove useful. On page 161 we publish the first instalment of an article giving a careful analysis of the pre-war and present-day prices of both labour and materials, which will probably contain much of the information required by our correspondent.

A GIANT AUSTRALIAN GIRDER.

The biggest girder ever constructed in Australia has recently been completed by the Sydney Steel Company, Ltd. It was constructed for Messrs. G. and C. Hoskins, New South Wales, to carry hot metal cranes from a new steel furnace. The total moving load was 230 tons and the span 85 ft.

Some of the girders required weighed forty tons each, with a length overall of 86 ft. and a depth of 8 ft. by 3½ ft. in width. The type of girder designed is generally known as the "Warren," with vertical struts and composed of plates, joists, channels, and angle sections.

The necessary expert and intricate calculations, and the assembly of these "bits and pieces" into such ponderous fabrics, each held together by three tons of rivets, hydraulically rivetted, was certainly no mean feat in structural engineering.

The transportation of these super-girders from Sydney to Lithgow presented many serious problems and anxious negotiations with road and rail authorities before they could reach their destination. Personal investigations were made and the route selected to be followed from the company's works at Marrickville to the railway siding where a travelling locomotive crane lifted the girders from jinker to a special forty-ton tank well truck ready to receive the load. A jinker was provided upon which the ponderous girder was loaded and a team of forty-five picked horses were harnessed up. The long jinker with its forty-ton load and forty-five Clydesdales moving to the accompaniment of horse language and cracks and cries,

followed by an admiring procession along and around and across the usual narrow, crooked, and in some cases treacherous streets of a Sydney suburb, presented an unusual sight.

CORRESPONDENCE.

Unity in the Profession.

SIRS,—I was very much interested in your leader and correspondence in your issue of July 16. Unity in the profession is essential before registration—the advantages of which the majority of architects are agreed upon—can be accomplished.

When, some years ago, the Institute and Society endeavoured to combine, one of the chief difficulties was, I believe, the status which members of the society should hold in the Institute, there being no class into which it was felt they could be transferred without unfairness either to themselves or the members of the Institute.

Whilst the formation of a new class in the Institute is certainly most undesirable, would it not, under the circumstances, be well to consider the formation of a temporary class into which members of the society could be enrolled, if the formation of such a class would simplify the necessary amalgamation?

The members of this new temporary class might be called "Members of the Royal Institute" (M.R.I.B.A.), and hold a similar position in the Institute to Associates in regard to voting, and have with Associates the privilege of election to the Fellowship.

Whilst there are certain disadvantages to the formation of such a class in the Institute, surely its formation would be approved if its creation would overcome the difficulty of combination between the Institute and Society, and so help towards the much-needed unity in the profession.

C. B. WILLCOCKS.

COMPETITIONS OPEN.

August 14.—Bootle: Houses.

The Housing and Town Planning Committee invite competitive designs for new houses, suitable for the working-classes, in one or all three of the small blocks, each bounded by roads, on the committee's housing estate in Orrell. Conditions and particulars may be obtained from Mr. J. S. Tumilty, Town Clerk, Town Hall, Bootle.

September 1.—Armagh Electric Light Scheme.

The Armagh Urban District Council invite electrical engineers to supply plans, specifications and estimates for an electric light and power scheme for the district. A prize of £20 will be paid by the Council to the engineer who submits the most suitable scheme. The prize-winner will be appointed engineer at the recognised fees for such work. Plans, specifications, and estimates to be sent to the Town Clerk by September 1.

September 20.—Incorporated Institute of British Decorators.

The Institute is offering two travelling studentships of £25 each for competition. The drawings must reach the Secretary of the Institute, Painters' Hall, E.C.4, not later than September 29, 1919. Further particulars may be obtained from the secretary.

September 29.—Bridlington: War Memorial.

The War Memorial Committee invite designs for a war memorial. Premiums £100 and £50. Sending-in day, September 30. Particulars from the secretary, 79, Quay Road, Bridlington.

Gosford Rural District Council Competition.

The Competitions Committee of the Royal Institute of British Architects requests members and licentiates to refrain from taking part in the above competition, the conditions not being in conformity with the Institute Regulations for Architectural Competitions. The Committee is in communication with the promoters of the competition with a view to the amendment of the conditions.

BUNGALOW HUTS.

The Ministry of Munitions, through the Government Property Disposal Board, are exhibiting in Horse Guards Parade, St. James's Park, a 60-ft. by 15-ft. army hut converted into a bungalow. The accommodation provided includes a living room, three bedrooms, scullery, larder, coal-house, bath, and w.c.

The cost of this conversion is estimated at £300, which, together with the price of the hut, brings the total outlay to £400. This sum for a dwelling whose life is most generously computed at fifteen years, and whose structure scarcely provides adequate protection either against extremes of temperature or moisture, can hardly be regarded as a satisfactory enterprise. As a week-end dwelling for the affluent, who are now forced to adjust their habits to restricted means, such a hut may present many attractions, and although this cannot be regarded as a direct contribution toward the solution of the housing difficulty, it is nevertheless very germane to it, for there is no doubt that workmen's cottages are being diverted from their intended function in large numbers to meet this new demand, and the appearance of this hut, more especially with its present attractive equipment by Messrs. Heal and Son, may to some extent allay this so undesirable procedure. Indeed, so delightful are the furniture and decoration, and so moderate their cost, in comparison with that of the hut, that one is apt to be purblind to the many constructional shortcomings of the edifice.

Plans of these huts were shown on page 472 of our issue of June 25. H. J. B.

URBAN HOUSING IN IRELAND

Pending the enactment of the Housing of the Working Classes (Ireland) Bill, local authorities have been encouraged to take into immediate consideration requirements of their several districts. A circular dated March 31, 1919, Local Government Board expressed opinion that "in view of the pressing urgency of the housing situation, the preparation of schemes by local authorities should not be postponed until the introduction of fresh legislation"; and a further circular dated May 5 detailed advice was given regarding the selection of sites, grouping and aspect of housing, the maximum number to be built per acre, and the accommodation to be provided.

Since, however, both the extent and character of new schemes have been necessarily dependent upon the shape which the Housing Bill might finally assume in its passage through Parliament, more especially in respect of its financial provisions, the local authorities have not been able to proceed very far with the schemes up to the present; but now that the Bill has passed through the House of Commons and the financial provisions have been finally settled, no obstacles or uncertainties remain which should deter the local authorities from at once proceeding to complete their schemes, which may be submitted to the Board before April 1, 1920, in order to participate in the very advantageous terms offered by the State for Irish housing.

Last month the Housing Committee of the Local Government Board issued a memorandum showing what private individuals and associations can do to help in solving the housing problem through the formation of public utility societies. In addition, draft rules and regulations relating to such societies and also to housing trusts have been prepared; but their publication has been retarded owing to the dispute in the printing trade in Dublin.

It should be borne in mind that the initiative in promoting schemes lies with the Local Government Board in co-operation with the local authorities (corporations, county boroughs, urban district councils and towns commissioners), and with su-



A BUSY DAY IN THE OFFICE: A CARICATURE OF OUR EDITORIAL STAFF
BY ITS YOUNGEST MEMBER.

rate persons as may decide to promote public utility societies or housing trusts. In the improbable event of local authorities neglecting altogether to exercise their rights and duties under the Bill, the Local Government Board act in their default.

In the meantime the Housing Committee wish to place all available information at the disposal of those primarily concerned with housing schemes. They will welcome any opportunity of consultation with such persons or bodies; and will earnestly endeavour to prevent any unnecessary or vexatious delay. At the earliest possible moment for site-plans are received from a local authority an inspector will be sent to the locality, and recommendations based on his report will be sent to the authority concerned as soon as possible.

On their side the local authorities have done much preparatory work during the last three months. Proposals from local authorities to acquire 224 sites, comprising more than 1,034 acres, have come before the Housing Committee since January 1; and forty-one sites, covering 780 acres, have already been approved, sufficient for 5,586 houses.

The following table shows, by provinces, the number of sites included in proposals submitted up to the 19th inst.:

Leinster	47
Munster	143
Ulster	18
Connaught	16

Total

It is anticipated that the very liberal subsidy which has now been offered to cover losses incurred in carrying out housing schemes, namely, 25s., and in exceptional cases 27s. 6d. for every 20s. of rate collected, will result in a rapid increase in the number of new schemes promoted. Information on this point will be published in the Irish Press from time to time.

It is hoped to publish in the early future a statement regarding the supply of building materials.

HEALTH MINISTRY'S HOUSING REPORT.

The report on housing progress issued weekly by the Ministry of Health states: "The continuing activities of local authorities and public utility societies in promoting new housing schemes are reflected in the figures for the week ended July 19. Despite a short week through peace celebrations, the number of new schemes submitted was well above the weekly average. One hundred and two new schemes were received by the Ministry. The schemes comprise an area of about 1,400 acres—sufficient for about 14,000 houses. The total number of schemes submitted is now 3,465, comprising an area of about 10,000 acres.

The plans of the houses to be erected on the Oak Hill site by the London County Council were submitted and approved during the week. The tenders for the 650 houses comprised in the scheme have also been approved.

The provision of material and labour for new houses has for some time past been the care of a special section of the Ministry headed by the Production Branch, which works, of course, in co-operation with the other departments of the Government which are primarily responsible for these matters. In addition to surveying and estimating the needs and resources of the

country as a whole, and making arrangements and appropriate departments for the manufacture and transport of building material, the branch is now busy perfecting an organisation to assure that the best use is made of local materials and resources. Each Housing Commissioner's district will have its "production officer," who will be concerned in arranging for local supplies of building materials and labour, so far as these supplies may be used practicably and for arranging measures to facilitate transport. With these officers will work advisory committees of expert local men to assure that the fullest local knowledge and experience are available. That the main difficulty will be labour rather than material is already evident.

From questions received in considerable numbers by the Ministry, it is evident that uncertainty still exists as to whether workers other than manual workers will be acceptable as tenants of houses built with State aid. There is nothing in the Housing Bill, nor is it the intention of the Ministry, to prevent non-manual workers from becoming tenants of the new houses.

The raising of local loans to finance housing schemes makes better progress in the North than in the South, a fact which is in all probability due to the greater familiarity of North-country people with this form of investment. For years past many North-country towns have raised a considerable share of their municipal capital by short-term loans, the security for which may be the town's rate-revenue or its property or both. The loans are issued in multiples of from £20 to £100 at a fixed rate of interest, withdrawable at three months' or six months' (or longer) notice on either side. Traders, artisans, and others have found their municipal treasurer a handy and not unprofitable "custodian" for their savings, and investors' lists of some towns comprise hundreds of names of working men. This system of loans has been tried in the South in the past, but, for some reason, with little success. New efforts, however, backed by local propaganda, are in contemplation in several Southern districts.

Steps are being taken by the Ministry—already with considerable success—to enlist the services of appropriate voluntary societies in disseminating knowledge of the national need and value of enlightened housing reform and of the measures that may be taken, both by the individual and by his community, to ensure new housing on well-considered principles.

Details of local authorities' schemes dealt with during the week are as follows:

Building Sites.

Schemes Submitted.—The number of schemes submitted—by sixty-seven local authorities—was 200, bringing the total number of local authorities' schemes to 3,413. In 3,076 of these schemes the area is stated, and it amounts to 31,917 acres.

Schemes Approved.—Sixty-eight schemes, promoted by thirty-nine local authorities, were approved during the week. In all 981 schemes have now been approved, representing an area of 13,989 acres.

Lay-outs.

Schemes Submitted.—Fifty schemes were submitted during the week by twenty-nine local authorities. Altogether, 512 schemes have been submitted.

Schemes Approved.—Twenty-eight schemes, promoted by eighteen local authorities, were approved during the

week, bringing the total number of schemes approved to 231.

House Plans.

Schemes Submitted.—Twenty-eight schemes were submitted—by nineteen local authorities—during the week, representing 1,290 houses, bringing the total number of schemes submitted to 283, representing 16,609 houses.

Schemes Approved.—Sixteen schemes, representing 1,362 houses, were approved by the Ministry during the week. Altogether 169 schemes have been approved, representing 11,130 houses.

SOUTH WALES INSTITUTE OF ARCHITECTS.

The South Wales Institute of Architects recently held their annual outing at Bristol, under the leadership of Mr. G. C. Lawrence, A.R.I.B.A., President of the Bristol Society of Architects, and visits were paid to some of the historic buildings in the city. Owing to the increased membership since the end of the war, the South Wales Institute of Architects are now in a strong position. Realising the urgency and difficulties in connection with building matters, particularly with regard to the housing problem, the Council are taking the matter up with the local district and other councils and local builders. For the coming winter session they are preparing an interesting series of lectures, competitions, etc., for the students and younger members.

ROYAL SANITARY INSTITUTE: CONGRESS AT NEWCASTLE-ON-TYNE.

The members of the Royal Sanitary Institute are holding a congress at Newcastle-on-Tyne, for which a large and varied programme has been arranged.

The proceedings commenced on Saturday, July 26, with the formal opening of the Reception Room in the University of Durham College of Medicine, Newcastle-on-Tyne, whilst on Sunday morning the members attended a special service in the cathedral, when a sermon was preached by the Vicar of Newcastle, the Rev. Canon G. E. Newsom, M.A.

On Monday morning the Lord Mayor of Newcastle held a reception of members and delegates in the King's Hall, Armstrong College, following which the President, the Duke of Northumberland, delivered his inaugural address.

The same day witnessed the opening of a maternity and child welfare exhibition in the Rutherford College, Bath Lane, Newcastle, by Mrs. Hereward Brackenbury, President of the Newcastle-on-Tyne Mothers' and Babies' Welfare Society.

On Tuesday morning a number of sectional meetings were held, including a conference of sanitary inspectors and a conference of engineers and surveyors.

These sectional meetings will be continued to-day (Wednesday, July 30).

To-morrow (July 31) a sectional meeting is arranged on engineering and architecture; also conferences of representatives of sanitary authorities, and of medical officers of health and veterinary inspectors.

Friday's programme is as follows: Meetings of Sections—B. Engineering and Architecture, in the College of Medicine; C—Hygiene of Maternity and Child Welfare, in the Literary and Philosophical Society's Lecture Theatre; Conferences of Medical Officers of Health and Veterinary

Inspectors in the College of Medicine; closing meeting at the College of Medicine. Visits to works and places of special sanitary interest. The congress will conclude on Saturday, August 2, when the Reception Room in the College of Medicine will be closed.

The interest in the proceedings is increased by various outings to places of local interest, including a visit to Alnwick Castle, where a garden party was held on Tuesday.

TRADE AND CRAFT.

The Cenotaph to "The Glorious Dead."

The memorial to "The Glorious Dead," designed by Sir Edwin Lutyens, and erected in Whitehall for the Peace Celebrations, has been constructed in fibrous plaster in the workshop of Messrs. G. Jackson and Sons, Ltd., 49, Rathbone Place, London, W.1, and erected by them, the work being completed in the extraordinarily brief time of six days. The same firm also made in the same material the modelled canopy over the King's pavilion at Buckingham Palace, which was designed by Sir Frank Baines, of the Office of Works. This also was made and erected in a very short time.

Concrete Houses for Sheffield.

Sheffield, one of the first cities in the Kingdom actually to begin work on one of the new housing schemes, is making use of new materials and new methods in its endeavour to solve the national housing problem. Months before the gravity of the situation was fully realised the experiment of building on the concrete block system had been tried at Sheffield, with such satisfactory results that 450 "Winget" houses are now included in the corporation's programme. The cavity wall system has been adopted in preference to solid concrete walls. The cavity wall method, as employed at Sheffield, ensures a bone-dry house and, maintaining an equable temperature throughout the year, protects the occupants from the cold of winter and the heat of summer.

"Asbestos."

The July issue of "Asbestos," an illustrated magazine, published free by Messrs. Turner Brothers' Asbestos Co., Ltd., of Rochdale, contains some very interesting notes and articles on labour, education, and other subjects, and reports of the lectures and the social functions organised by the firm. Members of the staff or workpeople, business friends, and well-wishers of the firm supply the majority of the literary contributions.

"Everite" and "Asbestilite" Building Sheets and Roofing Tiles.

The British Everite and Asbestilite Works, Ltd., of 29, Peter Street, Manchester, have issued a booklet dealing with the merits and economical and other advantages of using "Everite" and "Asbestilite" for roofs, external and internal walls, partitions, ceilings, etc. "Everite" corrugated sheets, which are in several sizes and in various colours, and weigh approximately 2¼ lb. per sq. ft., are made of asbestos and Portland cement, and are unbreakable and immune from atmospheric effects. Every kind of patent or other glazing can be employed in conjunction with "Everite" sheets. Flashings for parapet walls, etc., and an improved ridge capping are made to suit any requirements. As a lining for walls, partitions, and ceilings, and as roof coverings for domestic buildings, "Asbestilite"

is stated to be fireproof, rat-proof, sound-proof, and non-absorbent. The building sheets may be painted, distempered, enamelled, or papered immediately after fixing. Large contracts were carried out with the British and Allied Governments during the war for the supply of these materials for use in munition factories.

General Electric Co., Ltd.

Mr. Hugo Hirst, chairman of the General Electric Co., Ltd., stated at the annual general meeting, held in London on July 9, that of the 150 officers and 2,000 men of the company who enlisted, 232 had been killed (including Lieut. Leonard Byng, M.C., and the chairman's son, Lieut. Harry Hirst), 281 wounded, thirteen missing, and thirty-two taken prisoners, whilst 157 were still in hospital. Difficulties in connection with labour had been great during the war, and the Admiralty and War Office not only required the whole output of the works, but requested the company to double the output. At one time the glass works and ebonite works were the only sources of supply of certain raw materials for war work. War work had not differed essentially in character from peace work, thus enabling the change-over to take place with less disorganisation than with many firms. The net profits were roughly £481,000. Staff bonuses had been and would be treated in the same manner as salaries, and taken into account before the net profits were arrived at. The directors had adopted an ambitious peace programme and looked forward to taking part in the reconstruction of the devastated countries. There was a lack of stocks throughout the world, and the demand for electrical equipment would probably be double in the near future. Authority was therefore asked to increase the capital of the company to £6,000,000. Employees at present numbered about 14,000, which it was hoped to increase by an additional 8,000. Demobilised men had been reinstated without discharging other workers. A superannuation scheme for workpeople and staff had been drawn up. The £37,500 invested in Ordinary shares of the company at par, vested in trustees for the benefit of employees under the terms of a trust deed, now represented upwards of £70,000, and the company had agreed to guarantee the capital sum at

£60,000, and a net income of £3,750 p. annum. It was proposed primarily appropriate this fund for the benefit of employees who had completed fifteen years' service on December 31, 1919, supplement the small benefit they would draw under the contributory scheme, service with the colours during the war to be included. £40,000 had also been approved to provide a club building for workpeople at Witton. It was also proposed to convert the £10 shares of the company into £1 shares, to make them more accessible to employees of small means. At the Birmingham works the company had appointed a director of education, and some 300 or 400 boys were being encouraged to study in the company's time; and a similar scheme was being started for the London staff, where a director of education had also been appointed. A special course for demobilised officers had been organised to provide a reserve of competent men to fill the more responsible positions in the company in different parts of the world. In the new Kingsway building theatre and lecture-room was being provided, having the company's own staff lecturers and demonstrators, and the assistance of outside lecturers. The facilities would be open to all employees. The principal staff of research department had been selected, and the necessary buildings were included in the programme of development. The trading profit was roughly £480,000, of which £355,000 was distributed by dividends, allowing for the income-tax on the Ordinary shares. The company had expended £1,300,000 on wages, and were responsible for approximately a similar amount in contribution taxation, and wages in other industries. £16,799 had been paid to dependents of men on active service. £117,000 had been placed to reserve, and £73,000 had been placed to depreciation.

CARVED TYMPANUM, BROADWAY HOUSE, WESTMINSTER.

The carved tympanum here illustrates the industry for which the building was erected, namely, that of "Testing." The work was designed and executed by Messrs. E. J. and A. T. Bradford, sculptors, of 62a, Borough Road, S.E.1, and the superintendence of the architect, Mr. Edgar Stones.



CARVED TYMPANUM, BROADWAY HOUSE, WESTMINSTER.

Liverpool Housing Exhibition

N promoting the "Liverpool Daily Post" and Liverpool Architectural Society's exhibition of cottage construction, materials, and fittings, the Liverpool Architectural Society were prompted by a desire to assist architects, the various local authorities, and the public generally in obtaining the best available information on all matters relating to new and economical methods of construction and the structural finishing for the new housing, now so much in the public mind, and in showing up the conditions it was expressly laid down that internal fittings and furniture, which in the ordinary way were the tenant's property were to be excluded. The society secured the support of the editor of the "Liverpool Daily Post" and a thoroughly representative show has been organised. The opening ceremony took place on July 21 with addresses by the Lord Mayor, Councillor Rutherford, and Alderman Harford, the chairman and co-chairman respectively of the Liverpool Housing Committee. The Housing Commissioner for Lancashire, Brigadier-General Kyffin Taylor, also inspected the exhibition, which he thought was of a type that should be on view in every large centre in the country. For the information of architectural societies who might desire to take up similar work, we are informed by the Hon. Secretary of the Liverpool Society (Mr. Richard Holt, A.A., Victoria Street, Liverpool) that a modest entrance fee was payable by each exhibitor, and this, after payment of various out-of-pocket expenses, will leave the Liverpool Society with a trifling deficit. No charge was made for admission to the public. The society's work and that of the "Daily Post" has been entirely voluntary.

The Liverpool Corporation exhibited plans of their latest housing schemes, and several methods of concrete walling were shown.

Messrs. A. Mitchell and Co., of South Parade, Leeds, exhibited their concrete cavity wall construction of the panel type, reinforced in the slabs and vertically at intervals where the slabs come together. The outer slabs are of hard, impervious concrete, and the inner slabs of a lighter and more absorbent material with a view to eliminate condensation of the moisture in the room walls.

Messrs. Panels, Ltd., Birkenhead, showed a somewhat similar reinforced construction, slightly different in method.

Messrs. Johnson, Ltd., South Castle Street, Liverpool, exhibited a scale model of a patent concrete cottage. The principle appears to be that the whole of the elevation, including the upper storey, which is of the Mansard roof type, is cast monolithic and then erected in position. The bedroom floors are hollow for warming purposes, the stairs are to a standard design, and a flat roof is shown specially treated to resist the weather. They also show a "Tegoleum" lino composition flooring, which is "laid out of a bucket."

Messrs. Cyclops, Hilbre Street, Liverpool, exhibited hollow concrete blocks, machinery for their manufacture, various aggregates, and the "England" brand cement.

Among the sanitary goods shown by Musgraves, Ltd., Liverpool, were a combination bath and lavatory basin with one set of taps and wastes only for the dual purpose, a w.c. set, and a variety of sinks, and the "Dod and Alty" glazed earthenware

food locker, which has a hardware door with sliding vents and movable metal shelves.

Messrs. Holt's Patents, Westmoreland Street, Liverpool, exhibit several of their "Swan" silent cisterns, with refinements with the object of making them "fool-proof." A fitting worked on the theory of the "Venturi" tube ensures the discharge from the lower end of a flush-pipe at full bore.

Messrs. Baxendales, Hanover Street, Liverpool, have also a combination bath and lavatory; and the Interoven grate and their "Texo" for waterproofing all descriptions of materials and usable as a damp-course for making waterproof joints between slates, bricks, timber, stone, lead, etc., were also shown. Felted roofs can, by means of "Texo," be laid butt jointed and without nails.

The Carron Company exhibit their type of "Interoven" with a swinging hob, and the "Carronoid," a new type of parlour kitchen range with fall-down canopy to the oven, which is above the fire, the latter being fitted with a double sliding front for open or closed work. Above the oven, and extended to each side of the interior, is a large boiling hob, and the whole is finished off with a tiled back and surround. Small slow-combustion bedroom grates were also shown.

The Falkirk Iron Company's large stand contained a kitchen range of the "All-black" type, without a fraction of an inch of the surface to brighten up. Also their type of Interoven, in which the hob plate is made to slide instead of being balanced to swing. The constructional details of this oven are arranged so that the householder can dismantle and re-assemble the whole outfit with very little trouble in case any neglect should cause the flues to get sooted up. A special double purpose wash-boiler is shown which, if connected up to the hot-water system of the dwelling, ensures a hot supply for domestic use if the kitchen fire is not in use and, on the other hand, hot water in the boiler if the kitchen fire is lighted and the boiler fire is not. A bath, sink, and other fittings are also on view.

Mr. Bernard, Hamilton Street, Birkenhead, exhibits kitchen ranges with various devices and also a special fitting for existing ranges for slow combustion.

Messrs. Rowe Bros., Liverpool, have a large stand in the show, divided up into compartments with Messrs. Johnson and Co.'s concrete slab partitions.

Mr. F. Campbell, 34, Castle Street, Liverpool, shows the Davis "Gascol" combined gas and coal range, which burns either gas or coal; also a supplementary hot-water heater for use on the domestic service whilst the kitchen range is out of commission. The usual type gas cooker oven of their own pattern is also shown.

The Richmond Gas Stove Company's stand is fitted up with cooking ranges, gas fires, hot water heater and cylinders of the unit type, and a well-furnished bath.

Messrs. Berger and Sons, of London, showed their "Maisone" distemper, "Matone" wall paint, Enamelac and Scumble; and Messrs. Major, of Hull, exhibited their Solignum stains.

The Rawlplug (Liverpool Accessories, 71, Lord Street, Liverpool) show their method of plugging walls of any material, tiles, metals, etc., for screwing purposes.

Other exhibits are a metal window by

Williams, Gamon, and Co., of Chester. "Cornerettes," a composition filling up for corners of rooms, staircases, etc. Ventilating skylights in metal, and to dispense with openers, woodwork, and lead flashings by Messrs. Greenwood, Brasenose Street, Manchester. A method of hanging and manipulation of window sheets by Messrs. Wray, 83, Saxony Street, Liverpool, and a method of roofing with slates laid diagonally, so as to economise the covering material, etc., by Ecclesgill Slating Company, Blackburn Road, Great Harwood.

Two types of fitted-up kitchen cabinets are shown by the Lady-Maid Cabinet Company, 80, Victoria Street, London, and Mathews and Sons, 14, Manchester Street, Liverpool, the latter being known as the "Hoosier."

DEATH OF SIR EDWARD POYNTER.

Sir Edward John Poynter, whose death was announced on Saturday, was born in Paris on March 20, 1836, and had therefore reached the age of eighty-three. He came of an artistic stock, his father being the architect Ambrose Poynter, and his mother the granddaughter of Thomas Banks, R.A., the sculptor. His wife was a sister of Lady Burne-Jones and Mrs. Lockwood Kipling. Etcher, sculptor, designer, water-colour painter, mural decorator, worker in stained glass and mosaics, and artist in black and white, he was indeed an all-round man, of whose career we shall have more to say next week.

THE R.I.B.A. RECORD OF HONOUR: SIXTY-THIRD LIST.

Fallen in the War.

Shield, James Edward Coleman (A.). Killed in action in 1918.

Military Honours.

Hammond, Lieut.-Col. Frederic Snowden, Essex Regiment (Licentiate). Mentioned twice in dispatches (Gallipoli and Palestine) and awarded the D.S.O. in connection with the capture of Gaza.

Duncannon, Lieut. E. Ford, R.N.V.R. (Licentiate). Awarded the Distinguished Service Cross.

As commander of H.M. Motor Launch 13, Lieut. Duncannon was responsible for the destruction of many enemy mines when searching mined areas at low water.

Bridges, Lieut.-Col. Edward J., S.R.E.S. (F.). Awarded the O.B.E. (Military Division).

Webster, Maj. F. Coutts, R.A., O.C. (A.). Awarded the O.B.E. (Military Division) for services as D.A.D.O.S., 11th Division, in France.

Keys, Major Percy Hubert, M.C. (A.). Mentioned in dispatches, December, 1917; awarded Military Cross, January, 1918; Bar to Military Cross, September, 1918; French Croix de Guerre, October, 1918; Distinguished Service Order, June, 1919.

Major-General Sydney Lawford, commanding 41st Division, records his appreciation of Major Keys' great gallantry and most exceptional devotion to duty at all times during the operations between September 28 and November 11, 1918. His fine example and handling of large working parties resulted in a most successful conclusion to the operations.

Major Keys was twice wounded in action. He has now been demobilised and resumed duties as an architect at H.M. Office of Works.

The Week's News from Far and Near

Whistlers for the National Gallery.

The pictures by Whistler bequeathed to the nation by the late Mr. Arthur Studd are on view in Room XXII.

St. Jude's-on-the-Hill, Hampstead.

Plans are being prepared by Sir Edward Lutens for an extension of the church of St. Jude's-on-the-Hill, Hampstead.

Architectural Appointment.

Mr. W. E. Gauld, F.R.I.B.A., has been appointed architect for the new housing scheme to be carried out by the Town Council of Banchory (Deeside).

Architectural Partnership.

Mr. William A. Pite, F.R.I.B.A., of 116, Jermyn Street, London, has taken into partnership Mr. Hubert M. Fairweather, who has assisted him for over ten years, and also Mr. William A. Pite's son, Mr. Robert W. Pite.

City of London's Large Housing Scheme.

The Corporation of London were on Monday asked to approve a scheme for the erection of thirteen blocks of dwellings, comprising 208 self-contained tenements and 2,000 houses, at Higham's Park and Chingford, at a cost of £2,135,000.

South Wales Builders.

The South Wales Building Trades Employers' Federation, at a meeting at Pontypridd, approved the following new rule: "That for all jobs for which competitive tenders are invited, and where the value of the work exceeds £250, the members shall require proper bills of quantities to be provided by the architect or surveyor engaged."

Park for West Bromwich.

The West Bromwich Town Council have accepted the offer of Lord Dartmouth and Lord Lewisham to present the freehold of Dartmouth Park, covering over sixty acres, to the town. The donors desire to reserve the mines and minerals, and all rights and powers auxiliary thereto, and hope that the park will be preserved as an open space.

Barry Housing Scheme.

Barry Urban District Council have decided to negotiate for loans of £9,400 and £25,910 respectively for housing purposes. The estimated cost and rentals of the proposed houses are as follows: Type No. 1, £705, 9s. 6d. per week; No. 2, £800, 10s. 6d. per week; No. 3, £826, 11s. 6d.; No. 4, £838, 12s.; No. 5, £800, 11s.; No. 6, £885, 13s. 6d.

Liverpool Cathedral: Building Resumed.

Building operations, suspended during the war, have been resumed at Liverpool Cathedral. A further £130,000 is required to complete the central part of the cathedral, and the Executive Committee, who have only about half that sum in hand, are appealing for funds. It is also proposed that the northern arm of the first transept should be set aside as a memorial to those connected with the diocese and neighbourhood who fell in the war. Mr. Gilbert Scott, A.R.A., has prepared a design for the transept and fittings.

Jerusalem Town-planning Scheme.

A town-planning scheme for the city of Jerusalem has been drawn up by the British military authorities, in agreement with the municipality. The principles of the scheme are: To ensure proper restoration and preservation of the old city within the walls, so that its mediæval aspect

may be maintained; to prevent further encroachments of buildings immediately outside the city walls, and to have eventually clear land round the old city, kept in its natural state so far as practicable; and to regulate the improvement and the future development of the modern city outside the walls on town-planning principles.

Restoration of Rheims Cathedral.

A fund, which has the approval of the French Government, has been inaugurated to restore Rheims Cathedral. Representative national committees are being formed in Allied and neutral countries. It is estimated that the restoration will cost at least one million pounds. Sir Arthur Stanley has consented to be chairman of the committee for the Empire, and Miss C. May Beeman, 10, West Bolton Gardens, South Kensington, has been appointed organiser of the Fund.

West Bromwich Schools.

West Bromwich Education Committee have decided to proceed with the completion of the Cronehills Schools at an estimated cost of £27,000, subject to the Local Government Board sanctioning a loan. The schools were commenced shortly before the war, the original estimate of the cost being £14,918. When the work was stopped by order of the Government the amount done represented £3,793, leaving a balance of £11,125 uncompleted. This portion has now grown to £27,000. It was stated the committee were considering the question of providing temporary buildings to deal with the overcrowding problem.

Lincoln War Memorial.

The Lincoln War Memorial Committee have approved of the design of Sir Reginald Blomfield for a war memorial to be erected on Cornhill. Sir Reginald has designed a lofty stone obelisk on a pedestal, supported by bronze groups on either side, with bronze panels on back and front. These groups are placed on a plinth course above a moulded stone seat carried all round the monument, with two steps up from a paved platform on which the monument is to rest, and three steps down from the platform to a paved approach. The obelisk is surmounted by a bronze urn, and the flame of this could be lit up at night. Along the boundaries is a plain iron railing, with tapered stone posts, and a stone curb, to separate the grass from adjoining roadways. He estimates approximately the total cost of the work (exclusive of ground work, turfing, and planting of the lime trees) at £9,800.

Housing at Watford.

The Hossack Estate housing scheme has been considered by the Watford Urban District Council, who decided that 50 per cent. of the buildings to be erected will be houses having two living rooms and three bedrooms, 40 per cent. houses with two living rooms and four bedrooms, and public buildings, etc., and the remaining 10 per cent. larger houses and shops. Mr. Vincent Harris, architect, submitted a layout plan and details of the scheme before the meeting. It is proposed that the shops will have a frontage of 20 ft., the ground floor to consist of shop, living-room, with kitchen and out-offices, and the first floor of three rooms with bathroom. The dimensions of the rooms will be in accordance with Local Government Board directions; and a cellar will be provided for each shop. As regards the larger houses, it is

proposed that the majority should have two reception rooms, kitchen, offices, four bedrooms, two w.c.'s, and bathroom, and that in some of them there should be an extra reception room 12 ft. by 10 ft. Mr. Harris stated that it would be desirable to standardise numerous articles to be used in the houses. With regard to the Wilton Lane Housing Scheme, the Council decided to apply to the Local Government Board for a loan of £32,250 for the erection of forty houses.

29,000 New Houses: First Part of London's Scheme Approved.

At a meeting held on July 15 of the London County Council, proposals were approved for the provision of the first 10,000 new dwellings under the Council's housing scheme within two years from the date of approval by the Ministry of Health. The scheme as a whole provides for 29,000 new houses, with accommodation for, approximately, 145,000 persons. The capital outlay is estimated at over £30,000,000, on the basis of fifteen cottages to the acre. It was decided that areas allotted in the parks which were urgently required for games or other purposes be permitted up to and including January 1, 1920, and that cultivation of the remaining allotments be permitted up to January 1, 1921.

The Fate of Ken Wood, Hampstead.

The fate of Ken Wood, an estate of 2 acres, adjoining Hampstead Heath at Golder's Hill, hangs in the balance. Locally there is strong feeling that should be preserved as an open space while there is also the possibility of adaptation to the needs of the speculative builder. The mansion, which goes with the estate, was reconstructed in 1777 under the superintendence of the Adair brothers. The present owner is Lord Mansfield, in whose family the estate has been since the first Earl of Mansfield, afterwards Lord Chief Justice of England bought it, and placed it in the hands of the brothers Adam to reconstruct. The price asked for the estate, which has latterly been let, is £550,000. This is the figure quoted to the Commons Preservation Society and the Metropolitan Public Gardens Association by Lord Mansfield's agent just before the war.

Salford Town-planning Scheme.

In 1916 the Salford Corporation appointed a committee to prepare a town-planning scheme for the borough. Since then a comprehensive survey has been made, 750 duplicate plans prepared for verification of the landowners affected, and a scheme has now been formulated and submitted to the Corporation. It is proposed to construct new roads and to widen old ones, to reserve land for recreational purposes, and to allocate land for houses and works. At Lower Kersal, where twelve houses to the acre are to be built, landowner has promised a gift of fifty-five acres of land. In Broughton Park there would be eight houses to the acre, and the remainder of the scheme twelve houses to the acre. The council approved the draft proposals, and decided to apply for a loan of £17,500 for the purchase of land upon which to erect 500 houses. This in addition to the 800 dwellings for which permission has been made. Attention has also been drawn to the urgent need for municipal washhouses.

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The Architects' Journal
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THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



THE ARCH OF TITUS, ROME.

(From the engraving by Parboni.)



ROYAL PALACE, BUDA-PESTH. NIKOLAUS YBL, ARCHITECT.

THE ARCHITECTS' JOURNAL

Joint Editors: A. E. RICHARDSON, F.R.I.B.A., and J. FINDLAY McRAE.

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Wednesday, August 6, 1919

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The President's Message

IN taking time by the forelock, by broaching in July what a more conventional, or a less profuse president would have held jealously in reserve until November, Mr. John W. Simpson has shown a daring originality that will everywhere win him confidence and esteem. He has made, indeed, so fine a start, that already the timorous weaklings are beginning to murmur their misgivings that he will not be able to maintain for long so hot a pace. Those whose faith is more robustious because they happen to know him or his type, have no such fear for him. They believe that he has given us but a slight foretaste of his quality; and that, with adequate support, he is capable of achieving much more than he has foreshadowed. He is not one of those who, having put forward a strong programme, are thereafter so quiescent as to seem indifferent to its fate.

We believe that the hour and the man have once again coincided, and that the Institute has, in the nick of time, found a President who is capable of leading the hosts clean out of the wilderness. For it is evident that he is literally endowed with the three great qualities that are always and everywhere essential to progress—vision, faith, courage. Moreover, he is of exactly the right temperament, and of precisely the right spirit for a present-day apostle of unity; and to this end, these gifts are more persuasive than eloquence, more effective than the most splendid endowment of intellectual capacity, or the most ample equipment of ripe scholarship. Not that capacity and attainment are necessarily excluded by those other qualities. In the instance of any President of the R.I.B.A., it were a superfluous assurance that all these qualities, native and acquired, are combined in greater or less degree and in varying proportions; some of them in full measure, pressed down, and running over, others but a chemical trace. Otherwise the dignity of President would hardly have been gained.

Before the war, such personal allusions would have been ruled out as impertinent to this or any other issue; but personalities are no longer odious. On the contrary, the extraordinary discovery has been made that personality counts, and that psychology can no longer be left out of the reckoning. To this conclusion we seem to have been greatly helped by the enemy, who owe their overthrow to their complete misapprehension of the psychology of nations, and to their absurd attempt to put machinery above men. These mistakes inevitably led to disaster. Personality is in effect a tremendous natural force, which cannot be opposed with the smallest hope of ultimate success, even though the machine may for a season seem to prevail. It is a fair question whether Labour unrest is not in reality and at bottom a revolt against making the man subservient to the machine; and by machine is meant more than mere material mechanism. There are, for instance, the social machine, the Parliamentary machine, and many others. Some of them that creak horribly may be cured by a judicious use of the oil can; others, being

obviously past repair and dangerous to those who tend them, should be scrapped before they can do further mischief; for the efficient service of man should be the condition of continued existence for all or any of them; and in the hour of reconstruction all will be challenged on this vital issue, and those that cannot abide the question will pay the penalty.

There is everywhere a clearer perception of the true relationship between the man and the machine; a more humane spirit is being infused into all the transactions of all our institutions, from the Imperial Parliament downwards. That the Institute is not insensitive to this suffusion of humanity the President's message bears strong evidence. It is a broadly humane document, breathing forth in every line the spirit of goodwill and good-fellowship, and rich in suggestion that benevolent intention will be followed anon by beneficent action—that performance will ensue hard upon promise. The machinery of the Institute is to be made subservient to the needs and the aspirations of the profession. The President will not sit stately and austere aloof from common men. He has volunteered to move among them, learn their minds, hearken to the voice of their complaint. Doubtless he will eat salt with them, crack jokes with them—show himself, in fact, to be entirely human. He will be an elder brother to the most callow A.R.I.B.A. whom he meets on the floor—not on the platform, it is important to note—of the room rented by a struggling provincial society. As opportunity shall allow, he will go about among his subjects a "good Haroun-al-Raschid," but undisguised. Thus shall he learn much, even though he teach but little; and by convincing the country members that the President is of like infirmities with themselves, and prefers to move among them rather than to pose as Jupiter upon Olympus (hitherto supposed to be the favourite rôle of your proud President), he will win their suffrages, not for himself, but for the Institute. It is a way to remove misunderstandings, and to make architects feel that they are indeed a band of brothers, and should therefore delight in all the lovingkindnesses of that relationship; yet not mawkishly, though their occasional differences shall be without rancour, and the foe from without shall confirm their fraternity.

If only the President could extend his tour to foreign parts, and could sound the minds of our colonial sons and our American cousins, he would collect a fund of useful information that, taken to heart, might regenerate (or perhaps it were more fashionable to say reconstruct) professional polity and practice. But this international extension is too much to hope for from the President, who will achieve a remarkable enough feat if he succeed in getting half-way round the home circle. Yet we could wish that international relations between architects were more close and cordial than they have been hitherto. Why should it not become a regular practice for each country to send delegates abroad, to fraternise and confer? And would it not be possible to adopt the delegate system at home? That would

deprive the President of much pleasure, but it would relieve him of much fatigue; for it is not at all clear how he can scour the provinces on friendly visits when there will be so much business requiring his constant attendance at 9, Conduit Street. But the visits of the delegates should not be formal and perfunctory, should not be allowed to sink to the insignificance of mere routine. They should be of the same free-and-easy character as the "informal conferences" which have borne such excellent fruit at the R.I.B.A.

Personal contact and conference have been hitherto not a neglected, but an undeveloped, or at any rate an insufficiently developed phase of the Institute's activities. There are meetings, of course, and social functions that occasionally assume monumental dimensions, as when international congresses are held. But, for the most part the meetings have been mainly of a domestic character. Why not extend more invitations to outsiders—to the members of other professional institutions, or even of trade unions? For is it not highly

desirable that all sections of the building industry should unite for its advantage and for their own? A condition precedent to such unity is the mutual confidence that can only come from closer acquaintance.

But before this general unity can be secured, architects themselves must show a united front, lest the appeal to the other sections be met with the ancient taunt, "Physician, heal thyself." Not only should existing alliances be strengthened and confirmed in every possible way, but, if the resolution of the R.I.B.A. Council to strive for unity is to be effectuated, coalescence between the Institute and the Society of Architects should be immediately arranged. That this amalgamation is eminently desirable everybody is agreed; how to bring it about is the crux of the problem. But where there is a will there is a way; and the most hopeful feature of the situation is the goodwill apparent in every sentence of the President's Message, of which the gist seems to us to be Fraternity.

J. F. McR.

Notes and Comments

Concerning Lists of Prices.

OF late we have been repeatedly asked why we do not give in each issue of the Journal, or perhaps at longer intervals, a list of current prices of materials. Some few years ago such a list was a regular feature of the Journal. We abandoned it because we saw reason to believe that, even in normal times, such a list must necessarily be inadequate, if not positively misleading. By the same post would come complaints that the selfsame price was too high and too low: A complaining, "I cannot buy barks [or what not] at the price you give, while B put forward his grievance that he had barks [or what not] for sale at a lower price than that listed. Then we were told bluntly that no buyer or close estimator would dream of depending upon a printed list. He would ring up the merchants and get from them the present prices to the very hour, and also the prospects of rise or fall. On this point the several large firms of contractors whom we consulted were unanimous. Thereupon we withdrew a feature that seemed to us to occupy precious space to very little advantage. Recently, as we have said, we have been frequently urged to revive the price lists; and further inquiry among architects and contractors confirms the view that the keen architect or builder does not need such lists, with which, therefore, it would be futile to fill up several columns of space that can be turned to better account. There is, of course, one very obvious use to which weekly price-lists could be put—they could be referred to in the preparation of a rough estimate of cost; but that purpose would be equally well served by the annual price books, of one or other of which every architect keeps a copy at hand.

London County Council's New Superintending Architect.

Mr. George Topham Forrest, F.R.I.B.A., who was on July 29 appointed to the important position, so long and honourably held by Mr. W. E. Riley, of Superintending Architect to the London County Council, was born in 1872. Educated at King's College, Aberdeen, and at the Architectural Association Schools, he was articled to Messrs. Brown and Watt, of Aberdeen, and afterwards was for four years assistant to Mr. J. Macvicar Anderson. After acting for a year as principal architectural assistant with the Leeds City Engineer, Mr. Forrest was for seven years in the Architects' Department of the West Riding County Council. Appointed County Education Architect for Northumberland in 1905, he relinquished that post to assume, in January, 1914, the position of County Architect for Essex, which, of course, he is resigning. He has specialised on institutional buildings, such as asylums and schools, and has had a most extensive experience in those classes of work. While with the West Riding Council he assisted in the design and erection of the pauper lunatic asylum at Storches Hall, near Huddersfield, which cost £400,000, and of the Scalebor Park private asylum near Leeds, which cost £107,000. When the Education Act of 1902 was passed, Mr. Forrest was placed in charge of work relating to the architectural inspection of nine hundred elementary schools, and after his appointment as County Education Architect for Northumberland he carried out nearly all the school work for that county, building thirty-three new schools and superintending many alterations. He also designed the High School for Girls at Morpeth, a secondary

school at Whitley Bay, and a technical institute at Wallsend-Tyne. He has since done much excellent work of similar character in Essex.

"A Loftily Minded" Letter.

It cannot for a moment be doubted that, on his professional record, Mr. Forrest is an eminently fit and proper person to occupy the post. He has been all his life chiefly engaged in doing exactly the class or classes of work that the London County Council will require of him. Why, then, did the President of the Royal Academy and the President of the Royal Institute think proper to send, on the eve of the discussion of the appointment, a joint-letter to "The Times," appealing to the Council "to satisfy themselves that their choice has fallen on the right man—that is, on 'a man not only thoroughly conversant with the intricate building regulations of London, but, what is far more important, possessing wide attainments and an architectural training of the highest order.'" "He should be capable," the letter continues, "of looking forward, guiding, and controlling the future development of London, since to him will be entrusted the laying-out of new streets, improvement of old ones, immense housing schemes, schools, fire-stations, and all other building projects of the Council. It may or may not have been a consequence of that letter that the next day, when the recommendation of the General Purposes Committee came on for discussion, the Rev. Stewart Headlam moved, and Mr. George Dew seconded, that the recommendation be referred back. This amendment was defeated, and the committee's recommendation to appoint Mr. Forrest was adopted. Now, this joint-letter may have been as loftily minded as, to quote the expression of the Rev. J. Scott Lidgett, it was 'loftily worded,' but, in any case to send it to a daily paper on the very eve of the discussion was not, to put the matter mildly, a delicate, or was not, at any rate, a very discreet thing to do. Their splendid advice should have been placed before the Council long in advance of the announcement of the committee's choice. While we should be the last to deny that it is a matter in which the advice of men of the highest eminence in the architectural profession should be invaluable if only they were not ill-famed, we cannot help thinking that its publication at such a critical moment was extremely unwise, and was open to serious misconstruction. We sincerely congratulate Mr. Forrest on his appointment, and the Council on getting an architect who, unless he strangely falsify his excellent record, will assuredly render them true and laudable service.

Laodicean London.

There is a set-back to the housing scheme of the Corporation of the City of London. As we announced a week or two ago, the Corporation are willing to spend £2,013,565 on housing about eleven thousand persons, sites for their houses having been chosen in the Old Kent Road, Hercules Road, Tabard Street and Weston Street—all in the south-east district of London, besides a site of about 220 acres on which two thousand houses are to be built, between Higham's Park and Chingford. When (on July 28) the scheme was submitted to the Corporation, a very awkward question was raised. It was doubted whether the Corporation have really the power to undertake a scheme under the Housing and Town-planning Act, and consequent

the scheme was referred back to the Improvements and Finance Committee with the object of having the point settled by the officers. Hope deferred maketh the heart sick. We will hazard a rude guess that the Corporation cannot be very keen on the matter, or they would begin building and take the chances out of its being legal. Why stand on the punctilio of legality? Houses being so sorely needed, there is a moral obligation to build them; and yet the Corporation is sniffing and pecking and stonponing on a nice point of law.

High Prices for Old Wall Coverings.

Tapestry, we are told, was developed from a very plain wall-covering put up "to stop a hole to keep the wind away," as Shakespeare says, rather nastily, of "Imperial Caesar, dead and buried to clay." To make it decorative was the happy thought the lady left at home to beguile the anxious time as best she might while her lord was away a-foraying or a-hunting, or perhaps combining these amusements at the imminent deadly risk of life and liberty. Her lord's absences were so frequent and long as to give her ample opportunity to acquire a very pretty knack of stitchery. She became an artist of considerable accomplishment, if we are to believe that the beautiful examples of tapestry that have come down to us were really her work and not that of professional needlewomen. Whoever did it, there is peculiar evidence that it was done with consummate skill; and today the surviving specimens of the ancient art are sought after more eagerly than ever. At Christie's last week, three Flemish panels of the sixteenth century, with subjects from human history, brought 2,600 guineas; and two panels of the same period and country, with scenes from the life of King David, 3,500 guineas. Naturally, the prices dwindle as the time gets later, and hence we read that at the same sale a panel of the seventeenth-century Brussels tapestry, with figures dancing beside a château, realised but 750 guineas; while an oblong panel of Joseph and his brethren, dated 1755, fetched but a mere 680 guineas.

The Whitehall Cenotaph.

It was announced last Thursday that the Cabinet had decided to make permanent the cenotaph that Sir Edwin Lutyens designed for the temporary occupation of a site in Whitehall. We hear that the Cabinet, like the populace, has exercised its faculty of emotion rather than intellectually or aesthetically; and can but reiterate the opinion we expressed last week that when the emotion dies down there will occur a revulsion against the monument; for we are not alone in holding that, although the memorial served its temporary purpose very well indeed, the design is not strong enough to endure the test of time; and while its scale falls far short of the grandeur of the occasion, the great buildings about it dwarfing it to insignificance, an adequate increase in size was inhibited by the traffic requirements of one of the busiest streets in London. While admiring the simplicity of the design, we are fain to confess that we should care to see it reproduced in marble on its present site, where, we are convinced, it would ultimately and pitifully survive the generation it has evoked, not by its intrinsic merit, but vicariously—for "The Glorious Dead," whom it commemorates with a truth that we all recognise, but that nevertheless falls short of greatness.

Architects and Business Enterprise.

Recent incidents have raised the rather delicate question whether an architect is justified in taking a prominent part in the formation of public utility societies, or in identifying himself publicly with any sort of commercial interest in the housing movement. Our advice having been sought in this matter, we very willingly give it for what it is worth. Apparently the "capping" by Queen Elizabeth of a courtier's timid advance holds good. To his amorous line, "Fain would I climb, but I fear to fall," she replied, it is alleged, with the frigid comment, "If thine heart fail thee, do not climb at all," and the comment applies rather aptly to the timorous architect who would trade if he felt quite sure it was not an incorrect thing to do. While quite agreeing that, as a rule, a professional man should hold himself aloof from every form of trading, we admit that there are exceptions—that there are instances in which an architect possessing unusual business capacity should certainly employ it, whether in housing or in any other enterprise. This is purely a matter in which he need "ask no questions for conscience' sake." All that need be added to this opinion is that an architect with business capacity who thinks of joining the board of a public utility society or of any similar undertaking should be scrupulously careful to ascertain its soundness and to abide before lending his good name to it; but that is a common-sense precaution on which advice should be superfluous.

Labour and Science.

It is an old and ignorant slander that the worker cares nothing for science or the arts and crafts. That he is interested in science is evident in the demand of the American Federation of Labour for State aid for scientific research, because the technical results of research "form a fundamental basis upon which the development of our industries, manufacturing and other, must rest"; and that he has some regard for art there is abundant evidence in the work of his hands. Seldom, however, does he deal corporately with these high matters. In a few exceptional instances, trade unions have offered prizes for proficiency at trade classes, but, generally speaking, the normal attitude of the trade unions is that of severe abstention from educational effort. But in England the Workers' Educational Union, although a thing apart from trade unionism *per se*, is composed almost entirely of trade unionists, and is unquestionably sound in the faith in education; and now that we have got from American Labour a very clear enunciation of pure doctrine with respect to scientific research, it has become plain that the workers are taking up the subject with vigour and intelligence. For them, applied science is the phase in which they are mainly interested. Indeed, in their manifesto they mention explicitly the hygiene of the home and the factory. They are likely, therefore, to become, in the near future, keen critics of the architect and the builder; and it may be here hinted that any architectural society can do excellent work in assisting to organise technical education, and to foster the growing appetite for applied science among workers in the building industry. This opportunity for taking yet another step towards unity in the industry ought to be seized with avidity.

New Editor of "Specification."

Mr. Frederick Chatterton, F.R.I.B.A., who has for the last ten years been in the service of the Egyptian Government, first as a lecturer on building construction at the School of Engineering, Cairo, and later on the architectural staff of the Ministry of Public Works, has just resigned that appointment, and has accepted the editorship of "Specification."



A PHANTASY. BY STANLEY HAMP, F.R.I.B.A.

Architectural Causerie

THESE are many things to be learnt with advantage from our American cousins, not the least being the planning of small houses. This does not mean that we shall find suitable plans in the American journals awaiting our selection; on the contrary, for taste varies from Greenwich to the James River; and, even with the Colonial tradition as conventional setting, such a wealth of historic exemplars is not always drawn upon, for the taste of clients in the States is as fickle as it is in this country. Our own tradition, in so far as it applies to eighteenth-century domestic work, is most attractive; it is satisfactory because it developed consistently from the seventeenth to the nineteenth century. Moreover, it is thoroughly expressive of home life.

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We have come to regard American houses of pre-revolutionary days as the most important issue of the English tradition; for although the latter gained some of its character from Dutch and French sources, it remained true to its insular breeding. It has been suggested that architects in this country might well study the best models of Colonial building with a view to combining their vivacious features with the somewhat stiff lines of native models in order to secure fresh spirit to the vernacular of to-day. There is nothing to be lost from such procedure; in fact, there is much to be gained by judicious selection on these lines; but it means more thorough application on the part of students. In the past we have been too prone to specialise in set phases of building, exploiting this or that period and neglecting the whole gamut of design.

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Recent practice in England has disclosed several defects in the internal arrangements of the small house. There is a mistaken tendency to divide the space within the walls into a complicated series of cells, the inevitable result being that all sense of spaciousness is lost. In some quarters tricky planning, which in no sense can be regarded as economical, has superseded direct spacing. Altogether planning is in parlous case. Now the American views his problem from a different angle;

in the first place he believes in space combined with homely charm; secondly, he is a magician regarding planning economy. As I pen these lines one type of American house comes to my mind. Externally, it is an oblong, roofed in gambrel fashion, with goodly dormers to light the bedrooms and small eyes in the upper part of the roof to the attics. This is a living room 17 ft. by 25 ft. 6 in., a kitchen 12 ft. by 20 ft. with small offices ancillary to it, a ground floor bathroom chamber 13 ft. by 14 ft. On the first floor there are three bedrooms and a bathroom. At the head of the stairs a landing, termed the upper hall, most useful for stacking furniture when spring cleaning is done. The chief advantage of this small house is that it can be worked with one servant, central heating is one of its attributes, and the kitchen is in the living-room.

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Another type—planned on more traditional lines—has features familiar to many old English homes. The ground floor shows a house-depth hall with a staircase in direct view of the front door, a glazed door under the landing leading direct to the garden. On the left of the hall is the living-room 22 ft. 3 in. by 12 ft. 6 in., and on the right the dining-room 12 ft. 6 in. by 12 ft. 6 in., with a serving pantry acting as a buffer between the meal room and the kitchen. Such is the care given to fitting of the kitchen that a scullery is not required. Upstairs are three bedrooms and a bathroom, fully equipped, complete the scheme. It is interesting to those in this country who watch American customs through a magnifying glass to note that our countrymen across the water not only pay tribute to the character of old buildings in the States, but seek to augment it by study and borrowing the traditions of other countries for inspiration. This is particularly the method followed by Mr. Charles P. Jencks, who is without doubt the doyen of domestic architects, for the taste of an artist he brings the judgment of a scholar, and frequently he plans in Italian mood. The small Italian villa lends itself as a motif for this type of design, and especially as modern practice determines, mainly on account of cost, that the square or oblong plan is the most satisfactory. A small suburban house in the Italian manner designed by Mr. W. R. Bajari is shown on this page, and a very pleasant essay it is. Spaciousness combined with easy circulation. The entrance vestibule opens on to a reception hall with a good open staircase; to the left is the living-room 20 ft. 6 in. by 13 ft., entered through glazed doors. This room gives access to the dining room 13 ft. 6 in. by 11 ft., which is arranged en suite with the pantry, kitchen, the whole scheme of ground floor apartments ends in the loggia 22 ft. by 10 ft. The first floor arrangements include four bedrooms, a bathroom, linen cupboard, and a set of fitted cupboards.

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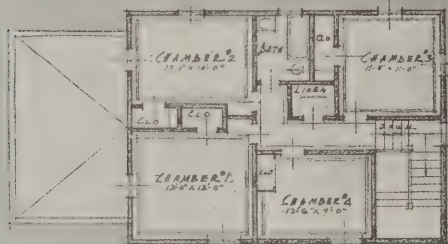
In addition to settling the lines of a house plan and disposing the rooms to command the best aspect, the American takes the natural setting of the house into consideration. He is always a student, and although he is forced, by virtue of the novelty of his problems, to borrow from sources widely different, never fails to pay good interest for the accommodation. This is another side to the question under discussion that should commend itself to the attention of all interested in the equipment of the small house. For economy every diminutive dwelling should be half furnished, as regards internal fixtures directly it is handed over by the builder. The staircase, the most important item of architectural furnishing, should be of hardwood. The fireplaces come next; while fitted dressers and cupboards in the kitchen, convenient glazed cupboards in the dining and living rooms, and fitted closets in the bedrooms benefit the tenant in a wonderful way. The floors should be well polished to save fitted carpets, and provision should be made for hangings and blinds to the windows; in fact, if the house is to be regarded as the latest expression of building it should present a comfortable look before the actual movables are unloaded from the furniture van.

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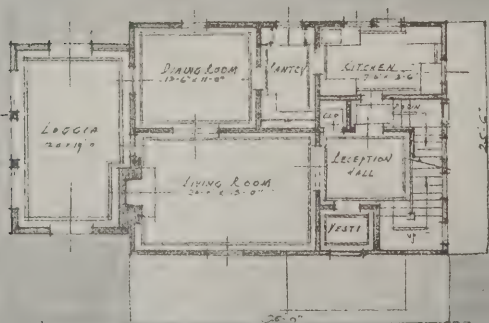
The initial cost of such a house will be greater than usual but the appeal it will make will increase its market value. There will ensue a rush of would-be tenants eager to secure a lease, and there will be tempting offers for the freehold, the public will pay handsomely for a good thing. It is within the power of architects to give the cultured individual of the middle and other classes the homes they urgently need. There will be a certain amount of prejudice to overcome, the inhabitants of Suburbia have a pretty fancy for architectural bric-a-brac. There are a few who rave over the delights of shanty half-timbering, rough casting, and tile hanging; others wish for a bay window to each room with an extra one in the angle of the sitting-room. There are the people who say



—FRONT ELEVATION—



—SECOND-FLOOR PLAN—



—FIRST-FLOOR PLAN—

A SUBURBAN HOME IN THE ITALIAN MANNER.



LOUIS XIV. DOORWAY, RUE DE BAC, PARIS.

pride because their house fronts are interesting in a busy way, and yet another school prefer a confusion of gables everything else.

The owner of a villainous residence once asked my opinion regarding the garden elevation of his treasure. It was a strange pile of sticks, bricks, plaster, and tiles. "What style would you call it?" he remarked, "rough-cast?" With dignity I gazed at the catalogue of materials in situ, and said, coldly, "Half-rough-cast would be more appropriate."

And so the interminable battle proceeds between architects trying to advance and the people who run amok with ideas. I hear from the ladies that architects never provide enough boards, that sash bars in the windows make the glass difficult to clean, that the rooms we design are too stiff, and that wallpapers leave much to be desired. Most people saddle an architect with the easy-going mannerisms evolved by the relative builder. This is more than unjust, for if the works of the latter had been delegated in the first place to the experts, the districts would have been saved from depression, and England of ours would have preserved a smiling face.

It is all very well in these days to comparé the houses of the nation, great and small, with the design of those erected recently and to make invidious deductions; but we must not overlook the fact that the whole complexion of things is altered. When the third of the Georges hunted at Windsor and took tea with Thomas Sandby, there were only twelve million of the subjects under the tiled, slated, and thatched roofs of England. Conditions were primitive, and living pressed hard on the people, but the standard of taste was high, for stimulus came from the patron. To-day the architect has in many cases to play the dual part of patron and designer. He is, moreover, in

the awkward position of being between two arcs of fire. The Government seeks to control his labour in an attempt to propitiate the masses, while the taste of the people is not sufficiently developed to help things on.

All social reformers are agreed that good housing is the panacea for industrial unrest, and the need coinciding with the post-war movement makes it imperative that the problem be not dealt with hastily. Our attitude to-day is quite distinct from that of the eighteenth century, but curiously enough we have no other standard than that provided by the models of traditional homes whereby to mould our new policy and to gauge our progress. At present we suffer from the curse of too much originality in the external treatment of small houses and not enough imagination when we attempt internal arrangements. For this reason it behoves architects to reconsider their plans if the new spirit is to be interpreted correctly.

In expressing a wish for certain features of building not sanctioned in the best circles, the public grade themselves into twopenny sections without being aware of the fact. Some insist on being accommodated with diminutive drawing-rooms because it is the fashion of Ilford, Ealing, and Purley, while the good sleepers of Verulamium, Woking, or Gerrard's Cross look down on all semi-detached houses. The myriad tenants of Walthamstow, Acton, Sudbury, the Finchleys, Sutton, and Hounslow demand parlours 10 ft. by 8 ft., because they have never known the delights of one really large living-room in addition to the place where the meals are cooked. It is all so petty, this cabinizing, cribbing, and confining of the people within the stereotyped walls and serrated gables of upper and lower Suburbia. But it is not my intention to close these columns with further croakings, for I am confident that architects will do their best to level up popular opinion and direct attention from the cinema to the realities of home life.

AERO.

The Adaptation of Historical Motifs to Modern Problems of Domestic Character*

TO-DAY the question might well be asked, Where do we stand regarding the design of small houses? The answer is, in the midst of a development with which we are perfectly acquainted, relying upon tradition for our chief inspiration, hoping that taste will improve, yet struggling to cope with varying interests. Sometimes we suffer from ideas which determine to exploit this or that style, or we allow our judgment to be influenced unduly to meet the whims of those for whom we build.

We exist in the midst of a Piranesian nightmare. There are stories above us, rising interminably, and stairs below which we have just climbed; there are rows of columns with curious ornamentation, roofs of every type, tiled and slated, gables of fantastic design, chimneys of Gargantuan proportion, panelled and capped; in fact all the attributes of our stock-in-trade. It may be true that the tutelary demon who arranges things for the confusion of architects mixes the fit wines in the cup we drink so strongly that we seldom escape night thoughts. When we wake to the sunshine we imagine that our perception is not dulled, but, hey presto, all things begin to twinkle. We are caught in the whirl of fashion, and off we go to join the multi-tude of devil dancers.

I have sketched the opening of this paper in fantastical vein to draw attention to the chaotic conditions which surround and threaten to enmesh architects. The wonder is that tasteful building flourishes at all.

To the uninitiated every roof and every house front is agreeable. The student of tidiness, however, is not deceived, for his discerning eye notes defects, and from the time he begins to see things out of focus till he becomes a slippered pantaloone he is doomed to a species of exquisite torture.

You may well ask why has this state of affairs been allowed to develop; can it be accounted to the apathy of the public; is it due to the negligence of architects; is there a remedy for it? If there is a panacea do you suggest?

The answer is direct: a nation only gets the buildings it deserves.

Public Apathy.

If a people are obsessed with the lust of making money, they neglect finer feelings, and the fact will, volens volens, become apparent in the style of architectural expression. Nothing can be done to this fundamental truth, but to a certain extent the evil is checked by the enthusiasm of

coteries of artists and craftsmen, who, grappling with terrific difficulties, effect a compromise wherever they can. By their labours they raise the vernacular to a high level, but it is equally certain that the less enterprising of their brethren will travesty their work, and, as time goes on, a style of sorts filtrates to levels even lower, until all pretensions to taste vanish.

No greater opportunity than the present has ever offered in the history of the nation for the improvement of taste. Houses of simple character are urgently needed. The architect to-day is a popular hero. Novelists give him the principal character in their books; the Government takes a friendly view of architectural design; but the mass of the public forms the chief part of the audience the architect has to satisfy. For this reason the burden of responsibility falls upon architects as a class.

In mediæval times the Church performed the function of inspiring and controlling taste. The guilds carried out ecclesiastical instructions with religious exactitude, and what was true of the cathedral became currency in the market-place.

In the sixteenth century, more particularly during the adventurous Elizabethan age, when the Church ceased to exercise its prerogative, taste, then in a transitional stage, received stimulus from the monarch, the nobles, and the merchant princes, a system gradually extended in the seventeenth century, although checked by the Civil Wars; its principles continuing throughout the eighteenth century, when the English school became a powerful factor, until the first quarter of the nineteenth century, or, as some say, to the year of the Great Exhibition. The foregoing is a rough explanation of what the eighteenth century spirit in its natural phases implies.

From the Seventeenth Century Onwards.

For the purpose of this lecture I refer especially to buildings of domestic character, representative of the period 1650—1820. During the early stage of the traditions people of wealth sought by every means in their power to express their social status to the public gaze. The architects of the time, with such patrons to please, acted as intermediaries between various sections of the community.

There were, of course, slight reactionary movements, and periods of transition, but taken as a whole the sequence of building in its finer aspects flourished consistently.

The architects, builders, and carpenters of those days had time to consider their designs. They lost no opportunity to improve themselves, and to train those who worked with them. We have only to refer to the numerous builders' dictionaries of

Lecture delivered by Prof. A. E. Richardson, F.R.I.B.A., to the Architectural Association on July 25.

the period to obtain an idea of the thoroughness of their system. Gradually the vernacular of the late seventeenth century developed into a tradition; with the important issue of Colonial work in America, at a later period it became sufficiently strong to react upon French taste.

If we take a purview of English building as it appeared at the close of the eighteenth century, we find tracts of design repeated from one end of the country to the other. That is to say, if we imagine London to be the hub of the wheel, and the trunk roads the spokes, what is peculiar to the whole suburbs as well as the town houses of the Metropolis applies equally to the towns and villages on the trunk roads.

The brick or stone cottage possesses the same attributes as the squire's house. The manor is a replica in miniature of the mansion. Such was the taste and spirit pervading English domestic work, little more than a century ago, that it was practically impossible for a craftsman to make a mistake in proportion. For over a century the vernacular gradually improved, it was superior to local conditions, although homage was paid to the use of material sanctioned by tradition.

After the Peace of 1815 there followed the unprecedented expansion of industry. John Bull ceased to be a farmer, for he realised that the steam engine would produce a new system. Rural scenes were destroyed to make room for factories, and the real development of cities and towns coincided with the railway mania. Finally, through the later years of the Victorian period, taste became even more depraved, until a few years previous to war—except in select circles—cultured opinion was practically non-existent.

The reason is not far to seek, for after the first quarter of the nineteenth century domestic architecture was no longer treated as a hobby by the man of leisure, who acted the part of patron to the architect.

In some quarters architects have been compelled to act the dual part of dictator and designer in order to protect themselves and their work from abuse. Hitherto the man in the street seldom had the enterprise or the money to engage the services of an architect. It was all he could manage to consult a lawyer. Then ensued the triumph of the speculative builder, the erection of thousands of soulless houses, and the spoliation of the outer suburbs.

Garden City Patronage.

For the past twenty years there has been an attempt on the part of some few of the ancient regime (I am referring to clients) to re-enact the part of the disinterested patron. The middle classes have also endeavoured to express their aspirations through the medium of building. We have the direct evidence of the garden cities to support this theory. Finally, arising in the main out of desire, but partly from the seething discontent of the industrial classes, a totally different appeal has arisen for tasteful expression in building, which it is the bounden duty of every educated architect to meet.

The people are asking for architecture, nay, they are praying for it, there is even a cry for the services of architects. Dr. Addison informed me the other day that he was tired of mentioning the same architect to the members of the committees working under his ministry, so it looks as though things are improving. The people want houses with the flavour of old England about the walls. They need unpretentious dwellings of the stamp that satisfied their forbears. Moreover, they need them to be spacious, but economic for working.

We have to-day to consider this vital question of housing from a reasonable angle, with motives entirely unselfish. In spite of democratic views and cant talk, there is the sociological point of view, that is to say, the grading of the people; for the unwritten laws of first, second, and third class, will not admit of revision, even if Parliament so decides. Apart from these main divisions there are minute side issues involving a study of social problems; such subtleties require analysis by architects.

If I was asked to define the anarchical tendencies in domestic architecture, I should have no hesitation in saying that building has got out of control; that quantity does not admit of quality unless it is grouped and standardised under supervision.

In former days the wealthy landlords engaged the best architects to develop their estates on regular lines. They could afford to be patrons of building design as well as public benefactors.

All this has been changed by the growth of industry. Patronage, once in the hands of the cultured few, has, in these days, almost vanished from the scheme of things. It is a case of every man for himself and a curse on those with ideas. The commercial man employs an architect to build business premises and draws up the preliminary scheme, afterwards acting as joint designer and insisting on the impossible; more often than not a frantic attempt is made to dispense with the services of the professional man. The middle-class man cannot afford to build in these days of high prices. The speculative builder has, fortunately dropped out of the race. The need of the moment is

fresh impetus to the domestic school, and this is a question to be solved by the younger members of the profession.

They will find inspiration in the heritage of the past. There is no need to search this or that heap of garbage. The way of the English tradition points the way. The domestic work of the seventeenth and eighteenth centuries (and by this I mean include English work in America) is essentially moderate spirit. It is, moreover, common to every part of the Kingdom. This tradition exists for the education of every one of us. It is no section of society, grade, or class, of the community in the present time, that can afford to dispute the value of our glorious heritage of building prepared for our enjoyment by architects, builders, and owners from whom we have descended. Everything connected with this remarkable tradition tends to summarise itself, and to give up some part of its character to the individual artist. For my own part I would have it explained to school children, I would have every thinking person taking an intelligent interest in the aspects of streets, no matter how small, and cottages; there should be no Babylonian confusion of styles if I could prevent it.

Back to Tradition.

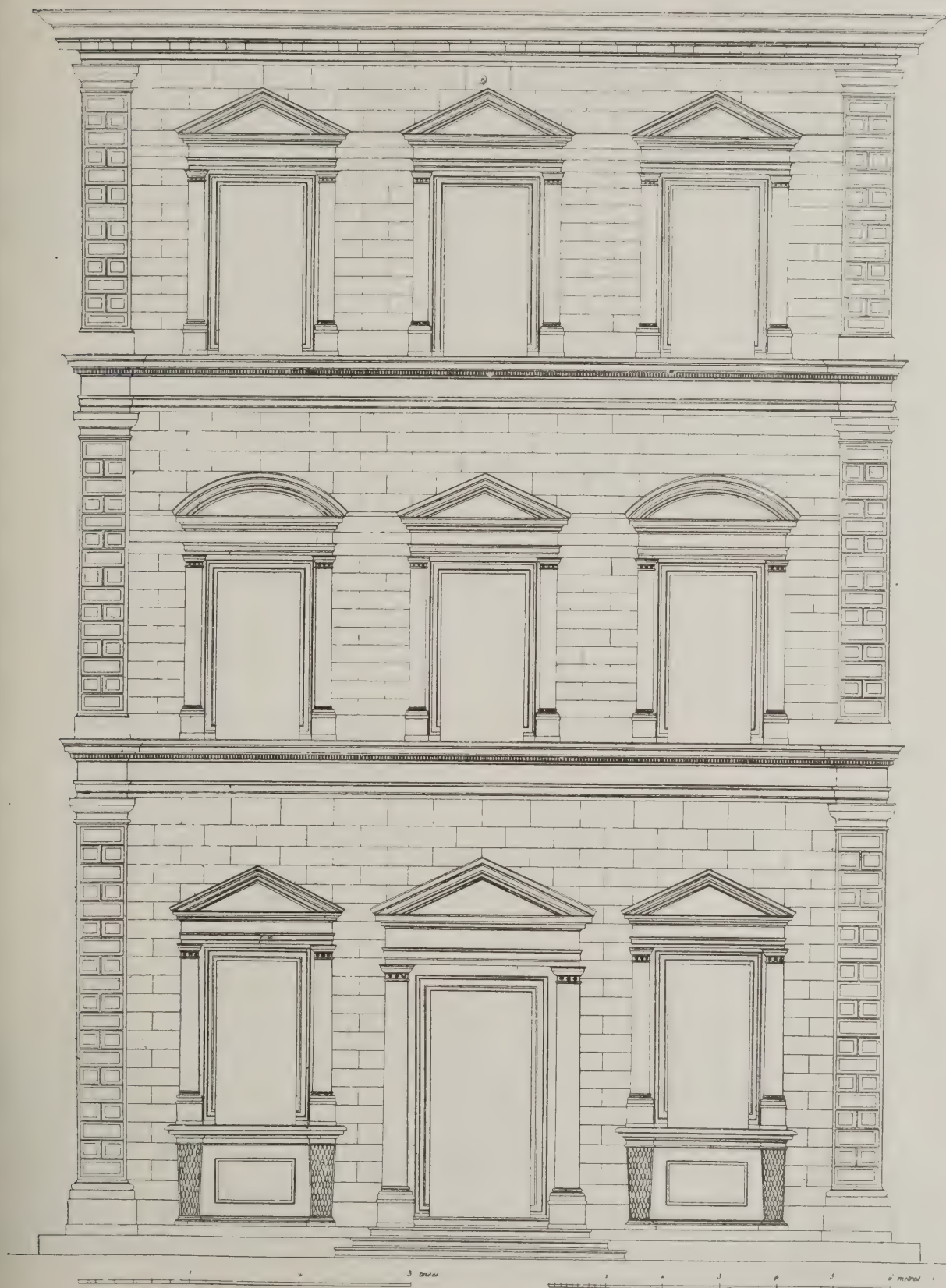
Every action, every effort to seek the truth, brings us back to tradition; we are forced to acknowledge the whole of its truth in our own work. The fault is here, in that we are not courageous enough to acknowledge our debt, yet we should be the richer, paradoxical as it may appear, if we borrowed more from the inexhaustible store of wealth lying at hand.

We must convey the history of England to ourselves, we must imagine that we are part of the system, our vision must be based on our mission must be purely idealistic. You will hear voices raised in protest: "This is carrying things too far! Where does originality come in? Are we to become mere copyists? Is it not a fact that this much-vaunted eighteenth century is almost becoming a fiction? The answer is, look around, make intelligent comparisons, test every new building with the standard of past achievement, try to gauge the spirit of the new work of things and attempt to divert it from unnecessary experiments for which there is no time.

Civil architecture, domestic building, engineering, and kindred arts are indivisibly bound up with insular tradition; this is not so they cease to have any real meaning. Architecture exists in the soul of a nation, and therefore is the soul of the individual. Its progress depends upon the clearer understanding of causes rather than the study of surface differences. Once in advance of the truths of tradition does not mean that we shall have a surfeit of pawnshop architecture, it does not imply that we shall become a nation of architectural reproducers, but it signifies that we have inherited the simple faith of our fathers and are not ashamed of the fact.

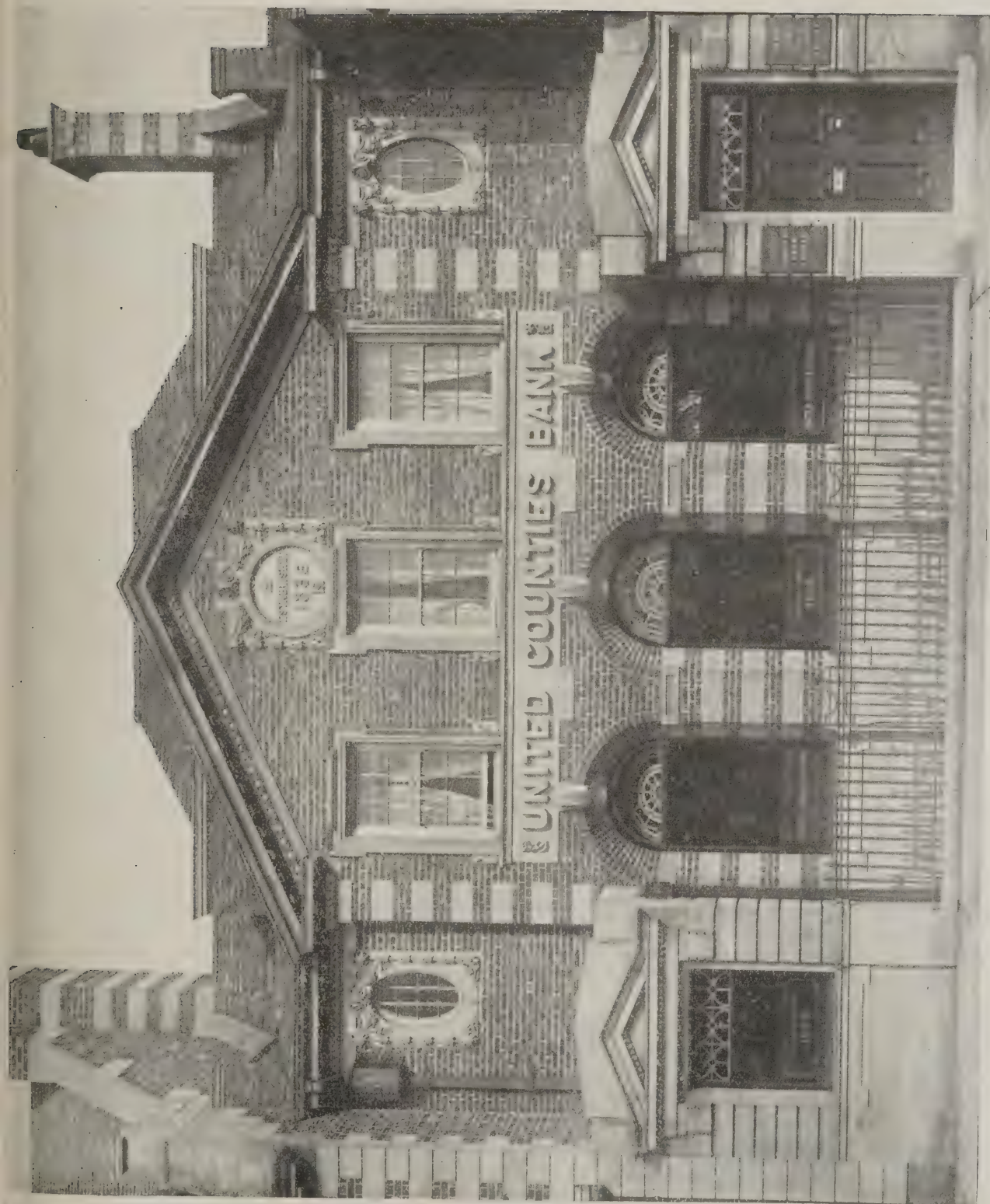


A BIRMINGHAM FACTORY. MESSRS. HARVEY AND WICKHAM ARCHITECTS.



FAÇADE OF THE GIACOMINI PALACE, FLORENCE.

(From a drawing by Famin and Grandjean.)



BARCLAY'S BANK, CREWE. PEACOCK, BEWLAY AND COOKE, FF.R.I.B.A., ARCHITECTS.

The Plates Described

Louis XIV. Doorway, Rue de Bac, Paris.

any fault can be found with this Louis Quatorze doorway, it is that the interest is a little diffuse. The urns and the sculpture that surmount it tend rather to detract from the concentration of interest that is always essential to the full payment of a work of art; and the sculptured mask and quivers between the doorhead and the cornice tend also to an undesirable division of interest, and would therefore be better away. As a whole, however, the door, although racy of its period, has more vitality than one usually looks for in work of that date, which is most characteristically represented in the over-elaborated ornamentation of the panels. (Page 169.)

Facade of the Giacomini Palace, Florence.

Someone has said—was it Major Barnes?—that architecture is fundamentally an affair of solids and voids, and of the manner in which these are related to each other. This front of the Giacomini Palace at Florence is mainly an affair of windows and their vertical and horizontal spacing. It is interesting to show how the several floors are marked off: perhaps the courses are a little to emphasise the general monotony of the front, but as a whole, however, though it may be "icily regular," it certainly does not complete the quotation by being "splendidly regular." One cannot quite approve, however, of the manner in which the front is made to look as if three separate houses had been piled one on top of another. The window treatment is strong enough to give the front most of its strength of character. (Page 173.)

Barclay's Bank, Crewe.

Bank buildings in England lend always to the street fortunate enough to get them a certain quiet dignity that only too often is necessary to redeem the street from sordidness. Barclay's Bank at Crewe is a cheerful as well as a dignified addition to the street architecture of a town that needs all the grace that an architect can impart to it. One could wish, nevertheless, that the lettering were less aggressive and more graceful. This, however, is a detail that very probably was not within the control of the architects, as bank directors, like other business firms, usually have their own ideas about the lettering of their titles or the design of their trade-marks, and a good deal of chagrin for an architect is the common result. Bad lettering will ruin the effect of an otherwise excellent frontage. That has not happened quite hopelessly in the present instance; but one could wish that a more modest and less heavy style had been chosen. Really good lettering—small, neat, and extremely legible, one might still go to Scotland. (See page 175.) It may be here noted that the firm now practising as Peacock, Bewlay, and Cooke was originally established by the late Jethro A. Cossins, in the year 1887. His work in Birmingham included the Mason College, the Liberal Club in Congreve Street, and the Old Meeting House in Bristol Street. Mr. Cossins in 1887 took into partnership Mr. Barry Peacock, and conjointly they designed, among other important buildings, the Birmingham Old Library, Public Libraries at Balsall Heath and Nechells, the Hand and Throat Hospital, Sutton Coldfield Grammar School, Aston Town Hall, and the Barbadoes Mutual Assurance Society, Bridgetown, Barbadoes. In the year 1900, Mr. Ernest Bewlay joined the firm, and in 1909 Mr. Cossins retired. For the style of Cossins, Peacock, and Bewlay, the following, amongst other work, were carried out by Messrs. Peacock and Bewlay; St. Augustine's Priory, Ealing; St. Philip's Hall, the Priory, Birmingham; St. Catherine's Tower, Birmingham; St. Agnes' Church, King's Norton; St. Peter's Church, Maney; and more than fifty banks for Messrs. Barclay's Bank, Ltd., Metropolitan Bank, and Parr's Bank; the Birmingham Maternity Hospital; Uffculme Open Air School; Birmingham Jewellers' School of Art; Rednal Tea Rooms; Birmingham Remand Prison; Women's Baths, Kent Street, Birmingham; and business premises for H.M. Government Factory at Oldbury; Messrs. Chance and Hunt, Ltd.; Messrs. Kynoch, Ltd.; Messrs. Webley and Scott; Messrs. W. Canning and Co.; Messrs. Chamberlain, King, and Jones; Messrs. Glover and Co.; Messrs. Archdale and Co.; Messrs. Barrow's Stores, and others. In 1917 the firm became Peacock, Bewlay, and Cooke as the result of an amalgamation with Mr. Samuel N. Cooke. Mr. Cooke had previously carried out, besides other important works, the following buildings in Birmingham: The Theatre, Broad Street Chambers, Paradise Street; St. Mary's Hospital; and business premises for the Birmingham Small Arms, Ltd.; Messrs. Earle, Bourne and Co.; Messrs. Little's Metal Co.; Messrs. E. G. Wrigley and Co.; Messrs. Wright and Rowlands; Messrs. The Midland Rubber Co.; Messrs. Eli Griffiths, etc., and at Worcester H.M. Government Cartridge Factory.

Details from the Temple of Mars Ultor.

So infinitely varied are the applications of Classical details that one is never wearied of studying fresh instances. In the Temple of Mars Ultor they are used somewhat lavishly; and an English architect would prefer to be more sparing of egg-and-dart, egg-and-tongue, fillet, and what not, while the enrichments of column and capital are rather overdone; but the details are very deftly composed. (See pages 180, 181.)

The Custom-house, Dublin.

In our issue of June 25 we gave as a frontispiece a detail of this masterpiece of James Gandon. We now show as a plate (page 185) a perspective view of the entire building, about which nothing further need be said, since no building in the kingdom is better known or has been more often described.

War Memorial, Kidderminster Church

THIS war memorial is built up of grey Forest of Dean stone, the central figure of Victory being of alabaster upon a background of rosso antico marble, with an alabaster surround. Of alabaster also are the figure of St. George and that of Joan of Arc at the top of the monument. In front of the recess containing the roll of honour the grid, being gilded, lights up the entire structure.



WAR MEMORIAL IN KIDDERMINSTER CHURCH.

G. GILBERT SCOTT, ARCHITECT.

An Analysis of Pre-War and Post-War Prices for Building Work

By COL. T. E. COLEMAN, R.E.

WHEN war was declared on August 4, 1914, probably no one fully realised the far-reaching consequences it would have on the industrial life of this country. Amongst other changes, the cost of building and engineering work generally has been seriously affected, so that it becomes extremely difficult to make any ready comparison with the rates usually obtaining at that time and those which must now be paid.

Previously, architects, engineers, and contractors could estimate fairly closely the probable cost of ordinary building work, as the prices—both for labour and materials—varied within comparatively narrow limits. These old rates no longer apply, and it is necessary to make considerable adjustments and modifications so as to take into account the altered conditions which have arisen during the period now under consideration. A fair approximation, however, may be obtained by comparing the current prices for labour and materials with the corresponding pre-war rates, and determining the average percentage of increase which has taken place in the various items of builders' work. In this connection, the following notes may prove useful for general guidance.

That war is waste—of life, labour, and materials—was never so clearly exemplified as during this gigantic conflict. The reflex action of war wastefulness is seen in the present high cost of labour and materials in the building trades and other branches of industry.

The three principal disturbing factors which have affected building prices generally as compared with the rates ruling for similar work in August, 1914, are the following: (1) Increased rates of labour. (2) Decreased efficiency and output of labour. (3) Increased cost of materials.

A further and more detailed examination shows that various circumstances have combined to produce the results indicated above. Some of the more important causes are here briefly mentioned.

I.—Increased Rates of Labour.

The industrial conditions in this country practically continued their normal course for some considerable time after war was declared, and no alterations in the rates of labour occurred. When, however, the enemy adopted a policy of ruthless and indiscriminate sinking of merchant vessels by submarine warfare, the food supplies of this country were greatly reduced, with the result that the cost of living increased considerably, and a corresponding rise in rates of wages soon followed.

The amount of work required in the construction of munition factories, military camps, naval depôts, and other war services of pressing importance also assumed enormous dimensions. As a consequence, the demand for civilian labour became far greater than the available supply.

Under these circumstances, the building operatives throughout Great Britain were in a position to command higher rates for their labour than they had hitherto obtained.

II.—Decreased Efficiency and Output of Labour.

As the war progressed the general efficiency and output of labour decreased considerably in the various branches of the

building trade. At the commencement of hostilities the Army was recruited by volunteers. Later it became necessary to introduce compulsory military service for every fit man within the age limit, unless otherwise engaged on work of national importance. Practically every healthy man in the prime of life was taken for military service in some form or other. Only inexperienced boys, unfit, or elderly men then remained to perform the work which had hitherto been executed to a very large extent by the skilful and muscular artisan.

As already stated, the amount of building and engineering work to be done far exceeded the supply of low quality male labour available. To some extent this deficiency was supplemented by the introduction of female workers, so that women carpenters, wood-cutters, painters, concrete block makers, labourers, etc., were employed. The dilution of male labour by female workers was opposed by some branches of trade unionists, more particularly in the shipbuilding, iron, and steel trades, but the principle was eventually recognised as a necessary war measure.

Under these abnormal conditions, every inexperienced or unskilful workman could readily command employment, together with extra rates for overtime, etc.

Very high rates of wages have thus been paid in the building trades during the war for labour of a lower standard than that which previously obtained, so that the quality and average output of work has decreased, with the result that the ultimate labour costs have been correspondingly increased.

During each succeeding year of the war the efficiency of labour has gradually diminished, until at the time of the armistice it was generally estimated as being about 20 per cent. under the ordinary pre-war standard. Some experienced engineers and contractors estimate this loss of labour efficiency at from 25 to 33 per cent. of the previous normal output. It is, however, considered that an average decrease of 20 per cent. on the labour output in all trades fairly represents the loss under present conditions.

There is no reason to doubt that this percentage of labour inefficiency will gradually diminish as an increasing number of strong and skilled workmen are released from the Army and become available for their ordinary employments. It will, however, take some time before normal labour conditions obtain in this country, and before this factor of increased labour cost entirely disappears.

III.—Increased Cost of Materials.

The unprecedented scale on which military operations were conducted created an enormous demand for building materials of every description for various war purposes. Added to this, the importation of raw materials from other countries was only effected in greatly reduced quantities under very difficult and costly conditions. Freightage rates for cargo increased considerably, owing to risk of loss by sinking or capture, and the convoy of merchant vessels by war ships and destroyers became a necessity.

These heavy demands for building materials and the difficulty of obtaining them naturally raised their cost. The quantities available and their prices fluctuated considerably from time to time,

so that it became impossible for any ordinary contractor to estimate in advance probable rates at which materials could be obtained.

This disproportion between supply and demand eventually became so great that the control of all essential materials including building materials generally was taken over by the Government, who allocated their distribution to meet pre-war national needs, and in many cases the prices at which they could be obtained. Had this course not been adopted, it is probable that "rings" of importers and manufacturers would have cornered the available supplies of different materials from time to time, and forced the prices to greater heights than any which had been experienced. It was only to be expected that Government control would itself be expensive, and lead to vexatious inconveniences and delays, but it would seem to be no doubt that this system, though cumbersome and irritating in degree, was advantageous to the country as a whole.

During the period when the entire supplies of such materials as iron, steel, timber, etc., were rigidly controlled in this country by the British Government, the maximum prices at which they could be sold were arbitrarily fixed, it was readily understood that such prices were not necessarily a true index of their intrinsic value.

For instance, at the termination of Government control of iron and steel in May, 1919, the price for bar iron immediately rose by 55s. per ton, as compared with the controlled price.

Similar arbitrary prices were fixed from time to time for imported timber. Under the Timber Control Order (July, 1918, to March 31, 1919) the controlled prices bore no fixed relationship to the actual market. Generally, the selling prices were considerably higher, but at various times fixed maximum prices were much lower than the import costs.

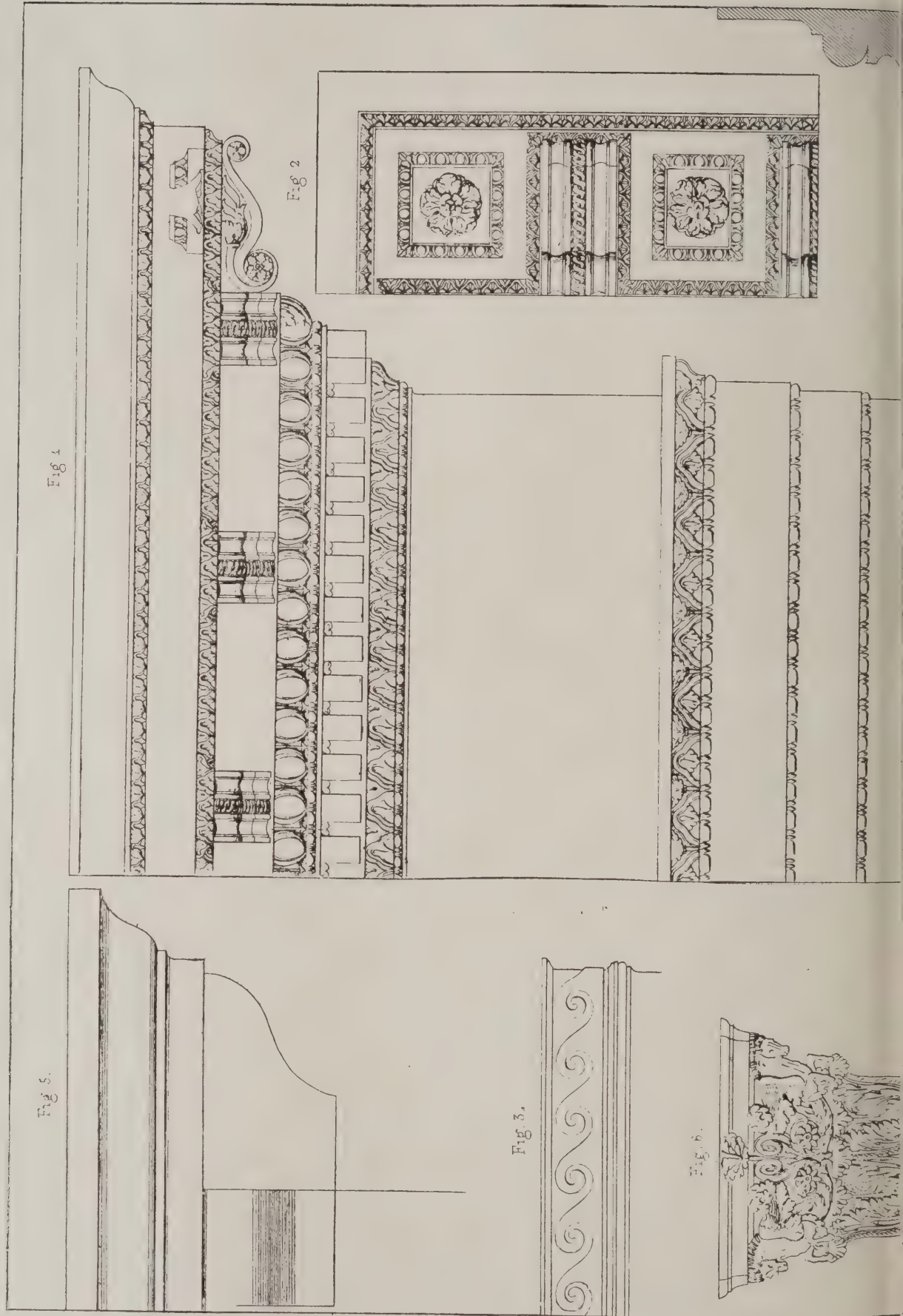
The Ratios of Labour and Materials.

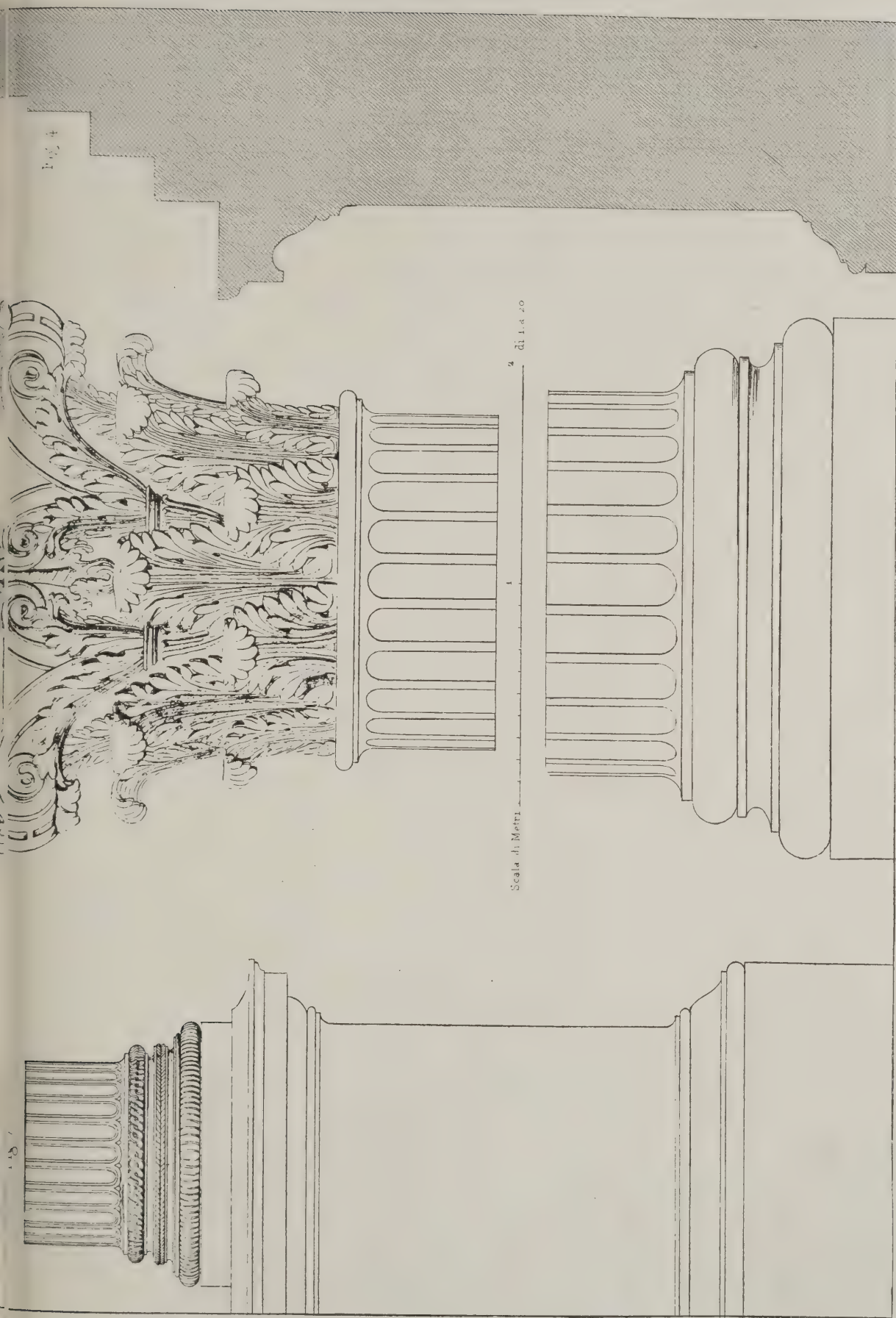
In making any comparison between the cost of building and engineering work executed immediately before and after the war, it is necessary to determine the average proportions in which labour and materials are respectively required in the trade. These proportions vary according to the nature and class of building work required. For present purposes those trades which are essential in the construction of ordinary buildings are considered.

The comparative ratios of labour and materials for each of the principal trades comprised in an average building are approximately as follows:—

Description of trade.	Ratio of labour in each trade.	Ratio of materials in each trade.
Excavator	90	10
Concretor	15	85
Drainlayer	30	70
Bricklayer	33	67
Mason	60	40
Slater or tiler	25	75
Carpenter (roofs, joists, etc.)	33	67
Joiner and ironmonger	60	40
Founder and smith	20	80
Plasterer	60	40
Plumber	33	67
Glazier	20	80
Painter and paperhanger	67	33

(To be continued.)





DETAILS FROM THE TEMPLE OF MARS ULTOR, IN THE FORUM OF AUGUSTUS, ROME.

New Government Housing Circulars

Modification of Procedure in the Submission of Housing Schemes.

The Ministry of Health have issued the following General Housing Memorandum No. 1:

With a view to simplifying and expediting the procedure set out in Appendix V. of the Manual, it has been decided to modify the procedure relating to housing schemes up to the commencement of the work by delegating approval of the plans or the lay-out and houses to the Housing Commissioner, so that, after the Ministry have approved the site proposal, it will only be necessary to submit the scheme to the Ministry at the stage of the approval of tenders and for sanction to any necessary loans.

2. (a) Sites.—The procedure with regard to the approval and acquisition of sites will remain as at present.

(b) Lay-out.—When the Ministry have approved the site, the lay-out proposal will be submitted by the Council to the Commissioner on Form D. 49 and, if it appears to him to be satisfactory, he will signify his approval of the application without submission to the Ministry.

(c) Street and Sewerage Works.—He will also consider the estimate of street and sewerage works (if any are necessary) on Form D. 51 and, if he approves it, the Council will at once ask for tenders or (if the work is to be done by direct labour) will submit a detailed estimate on Form D. 77. The procedure in obtaining tenders for this purpose is set out in Memorandum D. 76. The Commissioner, after considering the proposals and if necessary discussing them with the Council, will submit them to the Ministry for approval of the tender. When this approval is given the work should at once proceed.

(d) House Plans.—The Council will then (or, in suitable cases and wherever practicable, concurrently with (b) and (c) above) submit to the Commissioner the house plans for approval. This application will be made on Form D. 50 which the Commissioner will signify his approval without submission to the Ministry if it appears to him to be satisfactory.

(e) Tenders for Houses.—Tenders will be obtained in accordance with the procedure outlined in the Memorandum D. 70 as soon as the Commissioner has approved the house plans and the tender will be submitted to the Commissioner with the necessary particulars as set out in D. 70. The Commissioner, after considering the case and if necessary discussing it with the Council, will submit it to the Ministry for approval of the tender. When this approval is given, the work should at once proceed.

(f) Loan Sanction.—The sanctioning of loans remains as hitherto a matter for the Ministry.

3. The Manual and all memoranda hitherto issued by the Ministry should be read in the light of paragraph 2 above and modified accordingly.

Suggestions as to Work to be Started Immediately.

4. The best results at the present time will be secured by pressing on with a large number of smaller schemes or sections of large schemes. If large schemes are complete or are likely to be completed in a short time there is no reason for deferring them, but generally an immediate submission of a section of a scheme is better than the submission of a large complete scheme

at a later date. Further, there are many small builders who would be prepared to undertake contracts for twenty or thirty houses, or in rural districts ten or even less. Every effort should be made to induce such builders to start at once.

5. A large number of sites have been approved by the Ministry, and many more will be shortly approved. In many of these cases there is an existing frontage and a sewer is available. In such cases expedition would be secured if local authorities would prepare a lay-out plan for the whole estate in outline only and prepare house plans for houses to be built on the existing frontage and, after the approval of the plans by the Housing Commissioner, obtain tenders at once.

6. While the local authority may be quite properly considering the acquisition of a large site or a number of sites for their scheme, it may often be possible for them to acquire immediately a smaller piece of land fronting on an existing sewered street. Proposals for the acquisition of such land should be put forward at once if the site is suitable and the price appears after consultation with the district valuer to be such that the Ministry could approve. A small scheme should be at once prepared, and as there will be no need for street and sewerage work, it should be possible in many cases to erect houses this year, and also for local authorities and builders to acquire valuable experience for future schemes.

7. The suggestions above are made with a view to meeting a very serious emergency by the actual erection of some houses now rather than by the preparation of schemes for many houses later. While this is so, the preparation of the fuller and more carefully considered scheme must not be lost sight of.

8. A copy of Memorandum D. 76 on this subject is enclosed. It must be read as modified by paragraph 2 above.

Ministry of Health, Whitehall, S.W.1,
July 18, 1919.

The following circular has been issued by the Local Government Board:

Streets and Sewers.

Procedure to be Adopted when the Board have approved the Lay-out Plans.

(1) The streets and sewerage works may be carried out either (a) by means of con-

tracts based on specifications and bills of quantities, or (b) administratively by the local authorities or public utility societies by means of direct labour.

In the latter case the local authority or public utility society must satisfy the Board that economy and despatch will be secured by the adoption of this method and that they possess the necessary organisation for carrying out such works.

(2) So soon as the Board have approved the lay-out plans, and without waiting for the preparation or approval of the house plans, upon which the architect should be concurrently engaged, the local authority or public utility society should at once proceed as follows:

(a) Where it is proposed to carry out the works by means of contracts, they should:

(1) Prepare specifications, bills of quantities, and conditions of contract, and deposit copies with the Commissioner.

(2) Obtain tenders.

(3) Submit through the Commissioner to the Board a list of all the tenders received, showing the amount of each tender and the name and address of each tenderer, a copy of the tender which is provisionally accepted or which it is proposed to accept, subject to the Board's approval, and a copy of the form of contract.

(b) Where it is proposed to carry out the works departmentally they should prepare and forward to the Board through the Commissioner an application for the Board's approval of the estimate for carrying out the works together with a specification and the Form D. 77, containing the schedule of prices upon which the estimate on Form D. 51 is based. Such application to be accompanied by a statement giving the reasons why it is desired to adopt this course, and the number of men it is proposed to employ.

Note.—A local authority or public utility society proposing to adopt method (b) above, of executing the works should usually be able to forward the above documents when they submit their lay-out proposals, thus saving considerable time.

(3) It is not necessary that any approval of the Commissioner or the Board should be sought at any stage between the approval of the lay-out plans and the approval of the tender when proceeding according to (a) above, or of the estimate of works when proceeding according to



TYPICAL COTTAGE IN NORTH CORNWALL.

Photo: H. J. Budd.

(b), but it is desirable that the local authority or society should keep in close touch with the Commissioner, and for this reason the procedure set out above provides for copies of the various documents being sent to the Commissioner.

(4) The Board consider that where it is proposed to let the work by contract, the time elapsing between receipt of the Board's approval of the lay-out plans and the submission of the provisionally accepted tender should not exceed twenty-one days.

Where it is proposed to carry out the work administratively, the local authority or public utility society should be in a position to commence work immediately upon receipt of the Board's sanction to do so. In cases where it is impracticable to forward the specification and schedule of prices at the same time as the submission of the lay-out proposals, the time elapsing between the receipt of the Board's approval of the lay-out plans and the submission of the above documents should not exceed seven days.

(5) Where it can be shown that the work would be expedited thereby, the Board will be prepared through the Commissioner to sanction the carrying out of part of the works administratively and part by means of contracts.

(6) Where in the opinion of the local authority or public utility society, time will be saved if the lay-out plans are submitted to the Board before the whole of the detailed plans and sections of the street and sewerage works are completed, the Board will be prepared through the Commissioner to give provisional approval of the whole or such part of the lay-out proposals as will enable an immediate commencement of the work to be made. Sufficient information as regards the levels of the site and the practicability of the sewerage arrangements must, however, be provided in such cases.

(7) Some preparatory work in connection with the surveys, levels and estimates may frequently be carried out in anticipation of the formal approval by the Board of the site and of the lay-out plan and the Commissioner will facilitate this as far as possible.

Local Government Board, June, 1919.

Conversion of Houses into Flats.

The following circular from the Ministry of Health is dated July 29:—

I am directed by the Ministry of Health to state that, with a view to obtaining an immediate increase in the amount of accommodation available to relieve the present overcrowding, he is anxious that local authorities should at once consider the question of utilising the powers to be conferred on them under Clause 12 of the Housing Bill in regard to the conversion of existing houses into flats or tenement dwellings. As you are no doubt aware, under this clause the powers of a local authority to acquire land for the purposes of housing are to be deemed to include power to acquire any estate or interest in any houses which might be made suitable as houses for the working classes, together with any lands occupied with such houses, and the local authority are to be empowered to alter, enlarge, repair, and improve any such houses or buildings so as to render them in all respects fit for habitation as houses for the working classes.

In view of the present needs the Minister is anxious to facilitate schemes of conversion under this clause, and he desires me to state that such a scheme, when approved by him, will rank for financial as-

sistance as part of the housing scheme of the local authority. With a view to assisting local authorities in the preparation of such schemes (should the circumstances of their district render them practicable or desirable) a manual with regard to schemes of conversion is being prepared, and will be issued at a very early date.

To secure one of the main objects of these schemes it is essential that they should be put in hand at once, and, pending the issue of the manual, the Minister thinks it desirable that your authority should undertake a survey of their district with a view to ascertaining what property suitable for conversion is available. The Minister will be glad therefore if you will complete the enclosed forms so far as practicable and return them to the Housing Commissioner for your district (in London to the London Housing Board) within the next fourteen days. Information with regard to unoccupied houses (which it is suggested should be those to which the local authority should usually direct their first efforts) will no doubt be readily available. If the local authority have information with regard to other houses which, though occupied, are likely to be readily available for the purposes of conversion, such information might be included in the return.

As indicated above, the summary and schedules when completed should be sent to the Housing Commissioner for your district (in London to the London Housing Board), who will be glad to receive any further information which may be helpful to him in dealing with the matter.

The local authority should immediately consider what properties could with advantage be converted into working class flats or tenements, and should, as soon as possible, submit definite proposals to the Housing Commissioner in the manner which will be laid down in the manual.

CORRESPONDENCE.

Architects and Architecture.

SIRS,—I am loth to take up your space by repeating platitudes about the lack of co-operation in the architectural profession, and the quiet obscurity in which the best architects do their work. And with the risk of being labelled commercial, I venture to suggest that there must be greater publicity if the public are to be guided in the way of architectural truth.

One rejoices to see correspondence signed by able men on "Unity in the Profession," but with unity must come counter-propaganda against the ever-rising tide of spurious designers, who are responsible for the "architecture" of so many of our present-day buildings.

Walk down any street in London, and how many buildings are there that a competent designer would care to put his name to?

The fact is that England is not being built by competent architects at all. And unless there is to be some change in this state of affairs, the building renaissance of the next few years will be as mediocre as our present-day average work.

What is needed is active propaganda so that the right work is placed in front of the public.

The plain man so seldom sees good design in his daily round that he is bound to accept what hits him in the eye as the architectural standard of the present day.

The state of affairs is much the same as it is in the Labour world, where the blatant extremists gain their ends by publicity and propaganda, while the conscientious hard-working and generally more

competent individual has to pay the pipe in dim obscurity.

The public has, in fact, so little chance of seeing good work that it cannot be expected to discriminate between architecture and building.

Cannot the movement for greater unity in the profession be also a movement for educating those who are without, so that the public may be at least as conversant with good work as they are at present with the bad and mediocre?

Failure on the part of the best element in the profession to combat the publicity which the commercial designer enjoys will bring stagnation amongst architects in the forthcoming revival; and ugliness instead of beauty into our towns and villages.

A. B. KNAPP-FISHER.

23, Old Buildings, Lincoln's Inn, W.C.

The Gild Spirit.

SIRS,—You ask, are we gradually getting back to the Gild system? 'Tis a conclusion devoutly to be wished, yet were it not for the recent voice upraised against nationalisation of industries I should have said that I saw no sign of it whatever—indeed, everything was pointing the other way.

If this outcry is sincere, if there be enough force behind it, if it be true that the wiser people are going to take their courage in both hands, and not only flout a drifting ministry, but set about a social reconstruction upon their own initiative something of the sort may happen. The inherent weakness of a Coalition Government may give the opportunity to a Coalition people. The break up of the gild system begat individualism, and individualism begat Socialism.

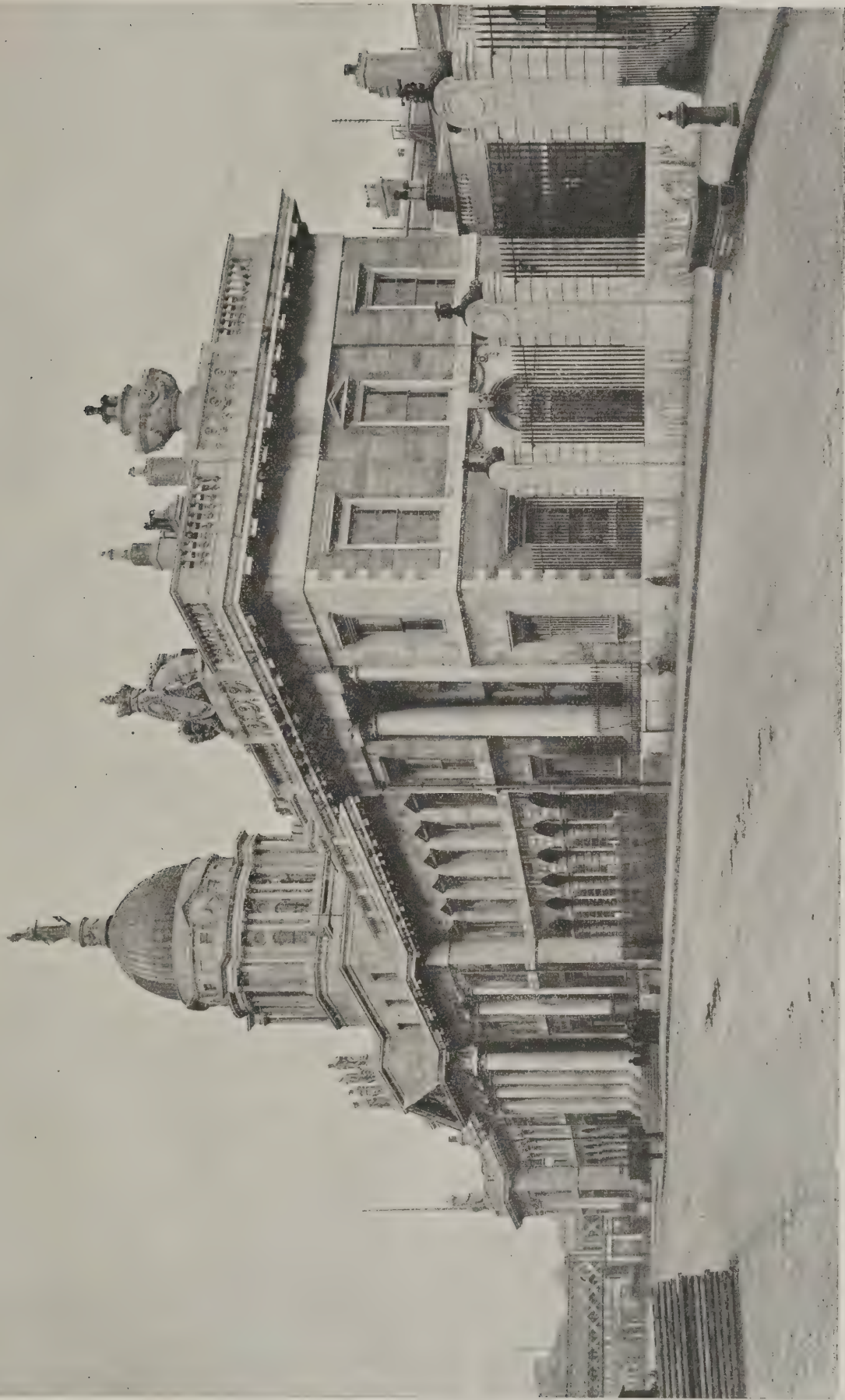
The gild system stood for order and government, the two latter stand for disorder and anarchy, one rooted in *laissez-faire*, which denies governmental need, the other sucking the life-blood of the community through government intervention.

How comes it, then, it may be asked that we have managed to get on at all through the recent centuries? Simply because government, which is in itself a gild, had absorbed and co-ordinated the functions of the many gilds, and for a while with more or less success. But the ever increasing social demands and developments necessitate departmental elasticity and elasticity is not a characteristic of departments that huddle together under a nominal head.

Moreover, removed from the special activities that they affect to preside over they lead a cloistered existence, fostering a bacillus, it would seem, that eats up their vitality.

The representative of an industry must be on the spot; it must be accessible, and in touch with that industry. So it was in the gild time. Each town had its gild of tailors, of weavers, of carpenters, and so forth. The warden of the gild and his court fixed prices, standard of material and settled all disputes, either between the freemen of the gild or their servants. Failing such settlement, the city gild—the mayor and aldermen—disposed of the matter. Jurisdiction was summary and final, with a result that the master craftsman might find himself excluded from the gild, and a servant find himself in gaol.

Ultimate authority was as much the keynote of the gild system as was mutual assistance and right dealing. One fancies that this is often overlooked, and that the popular estimate of a gild is represented by a round table conference, or a conciliation board. But fines and expulsion were



THE CUSTOM HOUSE, DUBLIN. JAMES GANDON, ARCHITECT.

ded, even in social gilds. The gild embraced not only mutual assistance but also mutual responsibility. The was the unit, since the professed of its members were identical. the preservation of its integrity was al. The standards of conduct en- by the gilds are indeed quite as as altruistic, and their apparent m is possibly overestimated. There no poor laws, no panel doctors, no boards. Social needs had to be d by the community. So among the bury pilgrims we find a haberdasher and a carpenter, a webbe, a deyer, a tapisier, all clothed in one livere, of uppe and grete fraternite, members of these necessary social gilds. less, in addition to the particular gild of each. The minor gilds were ally benefit societies, one of their duties being to provide masses for the of departed members. Thus with the nation countless gilds went out of ice. But the general disintegration of gild system was due to their local eter. As the channels of trade and means of communication used, the gild machinery was inadequate to deal with the new demands. Acts of Parliament took over the work, with an doubtful success, and the repeal of the far-reaching act of Elizabeth's reign brought, at one time by masters, at another time by servants, right into the of the last century.

The question is, then, Has the gild had a fair trial in its relation to the requirements? It is not now extinct. The social gild of the 19th century flourishes. The great City Companies still exist, though as gilds their operative powers are nominal. We have, at the moment, a Coalition parliamentary electorate, an the electorate further coalesce in a manner as to constitute the gild and revive that authority in the that is born of a mutual respect of its classes and its members?

C. J. T.

ADDISON ON HEALTH AND HOUSING.

Mr. Addison, Minister of Health, at the took the chair on July 30, at the Gray Hall, at the opening of the two Annual Conference of Urban District Councils of England and Wales.

Mr. Health Minister remarked that the Conference was meeting at the opening of a period in responsibility and sphere of local government. He believed, whether people welcomed it or not, we had gone forward to a greater measure of responsibility being thrown upon the governing authorities with regard to a many social and industrial questions. Mr. Minister of Health, looked forward to the day when it would be a remunerative undertaking for a man to build a house for himself, because it was clear that the shortage of that would result in the imposition of a permanent subsidy for the building trade, which he believed would be disastrous to the country. The problem now before Parliament, which he would be law in a few days' time, in reference to planning for future building operations were very necessary. As Minister of Health it seemed to him to be futile for the nation to pour out millions of money on all kinds of health expenditure unless they at the same time tackled the root cause of the vast amount of insanitary property. The expen-

diture on cleansing or reconstructing insanitary houses would not be lost, but would save expenditure enormously in other directions. There were, and there must be—in nothing more than housing—abundant causes for genuine dissatisfaction. It was up to all of them to see that they did their duty promptly and resolutely, determined to meet in advance, as far as they could, the legitimate needs of the time. He thought that only in so far as governing authorities rose to the opportunities and needs of these times would our security and future progress be assured. The housing problem was not a party or a political question, but a big social question of national need, and it was the duty of them all more than ever to be ready to undertake and discharge public responsibilities in a large spirit and with a courageous mind.

L.C.C. SUPERINTENDING ARCHITECT.

On the eve of the appointment of Mr. G. Topham Forrest, F.R.I.B.A., to the position of architect to the London County Council, the following letter appeared in "The Times." Comment upon the subject will be found in our editorial columns.

"Sir,—It is understood that the London County Council propose at their meeting to-morrow to come to a very momentous decision, which must affect the well-being of London for many years to come. They are to be asked to elect a Superintending Architect as successor to Mr. Riley, the present greatly esteemed holder of the office.

"The duties of the post require that he should be a man not only thoroughly conversant with the intricate building regulations of London, but, what is far more important, that he should possess wide attainments and an architectural training of the highest order. He should be capable of looking forward to, guiding, and controlling the future development of London; since to him will be entrusted the laying-out of new streets, the improvement of old ones, immense housing schemes, schools, fire-stations, and all other building projects of the Council.

"We venture to appeal to the Council to satisfy themselves that their choice has fallen on such a man, before coming to a

final decision. A large number not only of the architectural profession, but also of London lovers, are watching the result with much anxiety. None but the best is worthy of such a post.

"ASTON WEBB, President of the Royal Academy; Chairman of the London Society.

"JOHN W. SIMPSON, President of the Royal Institute of British Architects.

"July 28."

Mr. Forrest Appointed.

At the meeting of the London County Council on Wednesday last a discussion arose out of the recommendation of the General Purposes Committee that Mr. G. T. Forrest, F.R.I.B.A., the county architect of Essex, should be appointed architect to the council and superintending architect of metropolitan buildings, in succession to Mr. Riley, at a salary of £2,000 a year (based on present economic conditions).

Mr. Snell thought that a member of the staff should succeed to the position. He had not learnt that any attempt had been made to find out whether in the Architects' Department there was any man capable of taking the position. Of the three who applied not one was seen by the committee of selection or given any chance of putting their qualifications before the Council.

The Rev. Stewart Headlam moved that the matter be referred back, and Mr. George Dew seconded.

The Rev. J. Scott Lidgett said that he had noticed a loftily-worded letter in "The Times" that day signed by Sir Aston Webb and Mr. John Simpson calling attention to the imperfection of the choice which the committee had made in its recommendation. He stood in awe of men of the professional eminence of Sir Aston Webb and of his distinguished colleague, but when he looked and found that they recommended the second candidate and not the first he was bound to say the weight of that letter entirely disappeared, for although he was not a professional man himself he did claim to have some common sense in comparing qualifications.

Mr. Bernard Holland said that if the matter was referred back they might not get an architect before Christmas.

The amendment was lost. Mr. G. T.



"BRACEBRIDGE," FOUR OAKS. BATEMAN AND BATEMAN, ARCHITECTS.

Forrest was afterwards called into the room and informed of his appointment.

The General Purposes Committee also recommended the appointment of Mr. J. P. Orr, Indian Civil Service, as director of housing at a salary of £2,000 a year, but consideration of the report of the committee on the matter was deferred until after the summer recess.

ELECTRICITY SUPPLY BILL.

Standing Committee "B" resumed consideration of the Electricity Supply Bill in the House of Commons last week, when Mr. Shortt accepted an amendment providing that there should be on the joint electricity authority representatives of the council of any county situate wholly or partly within the district. Major Barnes moved an amendment to omit the words applying to the joint electricity authorities any of the provisions of the measure relating to district electricity boards, including those as to borrowing, lending, and giving financial assistance by and to those boards. Mr. Shortt resisted the amendment, which, he said, would upset the whole arrangements under the Bill. Mr. Trevelyan Thompson said under the Bill an authority might be dispossessed of its own undertaking, which would be handed over to a joint electricity authority on which there was no or little popular representation, and under Clause 16 they might be handed over to private companies to be run for private profit. Mr. Neal considered the safeguards in the Bill ample. The amendment was negatived. Mr. Trevelyan Thompson moved an amendment providing that Section 33, giving power to Electricity Commissioners to lend money to district electricity boards and authorised undertakers should not be applied to a joint electricity authority where the representatives of private interests constituted the majority of the members of the joint electricity authority. Mr. Shortt said the amendment would defeat the whole object of the Bill. Mr. Neal said the amendment would limit the power of helping joint electricity authorities. The amendment was rejected by 18 votes to 10. Mr. Joseph Johnstone moved an amendment providing that representatives of local authorities should constitute at least a majority of the members of a district electricity board. Mr. Shortt could not accept the amendment, which, he said, was too rigid and would tie the hands of local people. The amendment was rejected by 18 votes to 12. Clause 5, as amended, was agreed to and added to the Bill.

HOUSING IN NEW SOUTH WALES.

The New South Wales Government proposes to initiate a building programme. Houses are badly needed, the present accommodation being lamentably overcrowded. Two or three families are living in a house because there are not enough to go round. The position since the establishment of the Fair Rents Court has gone from bad to worse. Building operations have slackened, with the result that rents have advanced. Owing to the high cost of materials investors turn away from building, since they believe that the Court might prevent their obtaining a fair return from the money invested. The State Government will build more houses to let at a low rental, afterwards it will build houses to sell.

JOINT STANDING INDUSTRIAL COUNCILS: RECOMMENDATIONS AFFECTING BUILDERS.

The Joint Standing Industrial Councils' "Monthly Bulletin" contains important references to industries in which architects and builders are more or less interested.

Some of the Councils' recommendations are as follows:

Asbestos.—Agreed that forty-eight-hour week be established. Shift system under consideration. Existing time rates to be paid for forty-eight-hour week. Rates for piece work to be raised 15 per cent.

Building.—The Council has appointed a committee to consider the question of scientific management and reduction of costs, with a view to enabling the building industry to render the most efficient service possible. This committee has held several meetings and has appointed two sub-committees to deal respectively with questions of improving production and questions of the distribution of the product. The Education and Apprenticeship Committee has drawn up a scheme for the entry and training of all apprentices and recruits for the building industry. This has been approved by the Council.

China Clay.—Agreement reached fixing forty-two-hour week without reduction of wages. Agreement arrived at on February 4, 1919 (dating back to January 1, 1919), providing for payment to male time workers of 1s. 1d. per hour (6d. of which is war wage), overtime to be paid time and a quarter on week-days and time and a half on Sundays. On repair work pieceworkers will receive an increase of 21s. 6d. per week in addition to the piecework rates existing at July, 1914.

Electrical Contracting.—Provision made for forty-seven-hour working week, with one break of forty-five minutes' duration in the ordinary full working day.

Furniture.—In accordance with a general agreement reached by the Council a forty-seven-hour week has been established in many centres. Standard rate of wages for London upholsterers and upholsteresses, and standard rate for women polishers in London district, settled by National Conciliation Board (formed by the Council) and approved under Wages (Temporary Regulation) Act.

Packing Case Making.—Forty-seven-hour week adopted.

Paint, Colour, and Varnish.—Men and women over eighteen to receive 5s. per week, under eighteen 2s. 6d., on total war wage existing at December 1, 1918. Proportionate advance to pieceworkers.

Saw-milling.—The principle of a national minimum wage was agreed upon by the Council, the country being divided for the purpose into three groups: (a) Large towns and ports; (b) small towns; (c) country districts. The Council could not agree as to the minimum hourly rates for each group and the question was submitted to the Court of Arbitration. In June the Court of Arbitration awarded as follows: (a) Large towns and ports—machinists 1s. 6d., labourers, 1s. 3d.; (b) small towns—machinists 1s. 4d., labourers 1s. 2d.; (c) country districts—machinists 1s. 3d., labourers 1s. National forty-seven-hour week adopted.

Safety Appliances.—The Building, Furniture and Saw-milling Councils have decided to co-operate in advising the Home Office as to the protection required on wood-cutting machinery.

LONDON TRAFFIC INQUIRY COMMITTEE'S REPORT.

The Select Committee which has been inquiring into the Metropolitan transport question issued its report last week in form of a Parliamentary paper.

The committee begin a vigorous worded criticism of the present state of affairs by declaring that "the demoralisation of traffic in Greater London" is explained by "the absence of a supreme traffic authority for Greater London, possessing executive powers to control, ordinate and initiate, and to safeguard further public interests." They proceed

Owing to the absence of such an authority not a single important recommendation made in the past for the improvement of London traffic, for the avoidance of congestion, or for the benefit of the public, had the slightest chance of being carried into effect. The immediate creation of a Parliament of a London traffic authority can alone remedy the present intolerable conditions. Every phase of the transport system of London has been scrutinised, in our opinion an immediate solution of the problem is imperative, since it has reached the dimensions of a public scandal.

No Government Department to-day possesses powers of direction and control which are in the least degree effective, intended to be effective, in the regulation of London traffic. This fact is responsible for our faulty street alignment, for the stereotyping of ill-suited routes of general locomotion, and for the failure to visualise the increasing possibilities of mechanised transport.

All the witnesses agree that the present state of affairs imperatively demands immediate and drastic remedy, and the committee's remedy, as already stated, is the creation of a Supreme Greater London Traffic Authority, "not as a step which may be taken when opportunity offers, but as a vital measure of the most immediate necessity." They say:—"If the community intend to establish an efficient control of transport arrangements vitally affecting their daily life, they have no time to spare. Prompt action can alone avert much public inconvenience and suffering, and even mortality, this winter. In cold, and inclement weather uncovered side seats are only suitable for strong people, and long waits at street corners for a vacant place in overcrowded conveyances are a frequent cause of illness. Nowhere cheap and rapid transport is regarded as every household as an essential, irrespective of means and class, and when the facilities fail, as they have done partly this summer, you have a suitable foreground for all kinds of discontent and agitation. There are, moreover, essential improvements which only an efficient and enterprising traffic authority can carry out over a period of years. Had the recommendations of the Royal Commission of 1905 been accepted London would not at this time be so helplessly exposed to the shortcomings and defects of which there is a universal complaint. But even now much can be done if there be no delay to guarantee the community against immediate evils which must otherwise continue to increase. . . . London is faced not merely with the certainty of the present traffic arrangements becoming worse and worse, but with future schemes on the part of private interests, which may one day form an extreme menace to its comfort, convenience and prosperity. Of course, this will not be admitted by the interests concerned, but there are too few traffic organisations to exist, or privately feasible, in London."

old out hope of ultimate escape, unless special measures are introduced well in time and as soon as possible."

Powers of the New Authority.

Proceeding on the assumption that a new Traffic Authority will be created at the committee discuss its composition, powers, and functions. Owing to the multiplicity of public and other bodies involved, which might claim representation on an elected board, the principle of direct representation is considered inapplicable, and therefore recommend the establishment of a Greater London Traffic Authority.

The committee point out that, apart from purely administrative expenditure, which by reason of the national and imperial character of London ought, in their opinion, to be borne by the State, no funds will be required, since in its initial stages the Traffic Authority will not possess the power either of carrying out broad schemes of improvement itself or imposing them on others, except through the operation of a by-law. Each member of the board is to be paid for whole-time service.

Evils of Congestion.

Talking with congestion, the committee find no exaggeration to describe the existing congestion as a scandal. Twice a day for about two hours passengers are obliged to subject themselves not merely to physical discomfort, but too often to actual suffering, in their endeavours in the morning to reach their places of business and in the evening to return to their homes. The police recognised that the existing regulations could not be maintained in view of the demand for passenger transport which attained such vast proportions in 1917, 1918, and in the early part of 1919. They were obliged, therefore, to make various concessions; to permit overcrowding; to waive the strict control they had hitherto exercised in licensing vehicles; to relax traffic regulations in face of existing conditions with the maximum of official goodwill. No doubt their attitude, even if delayed, was helpful, but it had the consequence that private purveyors of passenger transport decided that if the police were compelled to depart from their custodial policy they themselves would be safe in developing these concessions on unrestricted lines. They accordingly did so.

Talking with the functions of transport, the committee regret that the evidence which has been characterised by an absence of co-ordination on the part of all Government Departments, local authorities or transport agencies of a broad view of public requirements, of a realisation that the Greater London transport problem is one indivisible whole, of a real conception of the properly co-ordinated rôle of varying kinds of transport in the life of the community. Voluminous statistics have been produced, not to demonstrate the effect of co-ordinated effort towards a common end, but to establish the need of a particular means of transport or to aim to preferential treatment. The controversy on this latter point has shown a conflict of opinion as to the relative importance of absolute function of railways, tubes, roads, and omnibuses. In the face of such conflicting evidence on the methods of operation a Supreme Traffic Authority is essential to enforce a working compromise between all the services, in which the only consideration will be the maximum of convenience and comfort to the public, consistent with the reasonable special requirements of each operating service. Such an authorised working compromise would eliminate competition and

ignore the claims of an operating organisation to preferential treatment. There is no ground whatever for the acceptance of the "Combine" view that their surface activities merit, at least so far as omnibuses are concerned, any special franchise, and certainly not a monopoly, and their antagonism to L.C.C. (and presumably any other) development, either in respect of tramway extension or motor-omnibus running, would not be entertained by any executive authority which aimed at making London transport effective and efficient, and which might fitly issue an authorisation to the County Council to run omnibuses should it wish to do so.

The proposed new central authority should consider immediately some modification of the existing system of the hours of workmen and employees generally so as to avoid the whole of the business traffic being thrown on the means of transport twice a day at the same period.

R.I.B.A. SCALE OF CHARGES FOR HOUSING SCHEMES.

Mr. Richard Holt, hon. secretary of the Liverpool Architectural Society (incorporated), has kindly forwarded the following useful application of the R.I.B.A. scale of charges to housing schemes:—

LAY OUT.	Per Acre.	HOUSES.		ROADS AND SEWERS. Assuming £900 per acre
		Architect on gross value.	Quantities on gross value.	
12 Houses		5%	2%	
50 "		3.17%	1.24%	
100 "		2.52%	1.05%	
10 Acres	£2 2 0			£20 10 0
120 Houses		2.35%	1%	
200 "		2%	.9%	
20 Acres	£2 2 0			£19 5 0
240 Houses		1.92%	.87%	
30 Acres	£1 18 6			£18 16 8
360 Houses		1.78%	.83%	
40 Acres	£1 14 1			£18 12 6
480 Houses		1.71%	.81%	
80 Acres	£1 9 11			£18 6 3
960 Houses		1.6%	.78%	
1500 "		1.57%	.77%	
2000 "		1.55%		
3000 "		1.53%		
4000 "		1.52%	.76%	
and down to 1 guinea per acre minimum.		and down to a 1.5% minimum.	and down to a .75% minimum.	and down to a £18 per acre minimum.

HOUSING IN THE LONDON AREA: R.I.B.A. NOMINATION OF ARCHITECTS.

The following nominations have been made by the Central Consultative Board of the Royal Institute of British Architects for various housing schemes in the London area. The Board began its work early in July.

Aylesbury — Superintending Architect: C. H. B. Quennell, F. Executant Architects: R. G. Muir, A.; R. M. Pigott, A.; H. F. Murrell, A. Surbiton—Superintending Architect: M. S. Briggs, F. Executant Architects: Anthony Wilson, Licentiate; Joseph Hill, A.; A. H. Brownrigg, A.; Horace Cubitt, A. Woolwich—Superintending Architects: J. S. Gibson, F. (past Vice-President); Maxwell Ayrton, F. Executant Architects: J. Gordon Allen, A.; F. Winton Newman, F.; W. E. Watson, F.; J. H. Belfrage, A.; T. Spencer, A.; F. Chatterton, F.; H. J. Birnstringl, A.; G. Berkley Wills, A.; J. H. Worthington, A.; A. J. Healey, A.; W. S. Grice, A.; Leslie Moore, A.; Harold Dicksee, A.; W. Harding Thompson, A.; W. G. Newton, A.; George Nott, A.; Leslie Glencross, A.; H. A. Welch, A.; A. G. R. Mackenzie, A.; H. J. Chetwood, A.

WEEKLY HOUSING RETURN.

The report on housing progress issued weekly by the Ministry of Health states:

The number of new schemes received by the Ministry during the week ended July 26 is rather below the average. For this peace celebrations may be partly responsible, but as the majority of the urban local authorities and a large number of the rural authorities have now submitted schemes for approval, the number of new schemes received weekly will naturally not be so large. The total number of schemes submitted is 3,596, representing an area approaching 40,000 acres. At an average rate of ten houses to the acre this area is sufficient for 400,000 houses. The week's new schemes, 139 in number, are fairly large in extent; they comprise an area of nearly 1,100 acres, which is sufficient for about 11,000 houses. The largest scheme of the week, promoted by the Woolwich Council, comprises an area of 334 acres, part of the Page estate at Eltham. As a start, it is proposed to build 1,000 houses, but ultimately 3,000 houses will be erected within the area. Useful work is being done by women's advisory committees formed in a number of districts to examine and offer advice on housing schemes. Their nearer interest in the house renders the advice of women particularly valuable, not only as regards the planning of the house, but in almost every stage of a housing scheme. Some interesting and practical suggestions are contained in a report recently prepared by the women's advisory committee at Bristol. A women's advisory committee has also been formed in connection with the housing scheme promoted by a public utility society at Swanpool, near Lincoln. Some local authorities are receiving offers of loans, although the money may not for the moment be required for carrying out their housing schemes. The Ministry have authorised the Willesden Council to take advantage of an offer of a loan of £70,000, ultimately to be expended on housing. The Housing Bill has formed the subject of conversations between the two Houses of Parliament, and the issues have been narrowed to one or two points. The Bill will doubtless receive Royal Assent at an early date.

The schemes submitted by local authorities during the week are as follows:

Building Sites.

Schemes Submitted.—The number of schemes submitted by forty-eight local authorities was 136, bringing the total number of schemes to 3,541. The figures denote acreage:

Urban. — Woolwich, 334.25; Merthyr Tydfil, 92.00; Merton and Morden, 35.25; Adlington, 29.13; The Maldens and Coombe, 26.85; Teddington (three sites), 22.18; Dunstable, 20.00; Tanfield (two sites), 15.92; Felixstowe (three sites), 12.08; Hurst, 13.00; Runcorn, 12.00; Dawlish (two sites), 8.77; Lichfield (three sites), 7.82; Tottington (two sites), 6.20; Blandford Forum, 6.00; Shap, 5.13; Slaithwaite, 4.58; Hampstead, 3.33; Caerphilly, 2.00; St. Marylebone (two sites), 2.00; St. Pancras, 0.17; total 659.66 acres.

Rural. — Pontefract (eleven sites), 143.96; Llandaff and Dinas Powis (five sites), 32.68; Tadcaster (five sites), 20.67; Ketton (three sites), 20.00; Hinckley (three sites), 16.23; Lanchester, 12.12; Wantage (twelve sites), 11.21; Westhampton (fourteen sites), 10.58; Warmley, 9.02; Atcham (five sites), 8.82; Lexden and Winstree (five sites), 7.17; Aylsham (two sites), 7.00; Hoxne (seven sites), 6.50; Tisbury (nine sites), 5.31; Long Crendon (two

sites), 5.15; Preston, 5.00; Cirencester (three sites), 4.48; Castle Donington, 4.30; Bakewell (three sites), 3.91; Bakewell (one site), —; Banbury (two sites), 3.50; Yeovil (three sites), 3.38; Auckland, 2.50; Blandford, 2.00; Market Harborough, 1.78; Wincanton, 1.50; Hatfield, 1.00; Uckfield, 0.50; total, 350.33 acres.

Schemes Approved.—Thirty-five schemes were approved during the week, representing 524.81 acres. This brings the total number of schemes approved to 1,016, representing 14,517 acres. The figures denote acres:

Lay-outs.

Schemes Submitted.—Thirty-four schemes were submitted by twenty-seven local authorities, bringing the total number of schemes submitted to 545.

Urban.—Birkenhead, Conway (two sites), Coulsdon and Purley, East Retford, Eston, Farnworth, Horsham, Hoyland Nether, Liverpool (two sites), Macclesfield, Market Harborough, Rochdale (two sites), St. Helens, Southwick, Stratford-on-Avon.

Rural.—Barnack, Braintree, Hemel Hempstead, Huntingdon, Long Crendon (two sites), Plomesgate, St. Mellons, Runcorn, Westhamphnett, Williton (two sites), Wincanton, Yeovil (three sites).

Schemes Approved.—Twelve schemes, submitted by ten local authorities, were approved, bringing the total number of schemes approved to 243.

House Plans.

Schemes Submitted.—Nineteen schemes, representing 785 houses, were submitted by fourteen local authorities. This brings the total number of local authorities' schemes submitted to 302, representing 16,380 houses.

Schemes Approved.—Eleven schemes, representing 1,098 houses, were approved, bringing the total number of schemes approved to 180, representing 12,228 houses.

DISPUTE IN FURNITURE TRADE.

Much unrest prevails in the furniture trade throughout the country owing to a long-standing dispute over wages and working hours. In Liverpool recently the men's wages were increased to 2s. an hour. A similar application was made by operatives in Manchester, but no settlement was reached, and several thousand workers are now idle throughout East Lancashire. Other districts affected are Nottingham, High Wycombe, Bath, and Bristol. A lock-out has occurred in several districts, and there is a possibility of the trouble spreading. A conference of the executive committees of the trade unions affected by the lock-out was held at Anderton's Hotel, Fleet Street, last Wednesday afternoon, the bodies represented being the National Amalgamated Furnishing Trades Association; the Amalgamated Society of Carpenters, Cabinet Makers, and Joiners; the Amalgamated Society of Woodcutting Machinists, and the Amalgamated Union of Upholsterers. It was stated that over 20,000 persons were involved in the dispute, and that there was much resentment at the attitude adopted by employers, especially among discharged soldiers and sailors. The conference appointed a representative sub-committee to consider measures for dealing with the position, and decided to issue a joint manifesto explaining the causes which have led to the lockout. Meetings are also being held in all parts of the country. In certain districts, it is stated, the wages paid in the furniture trade have been very low, and the great increase in prices has resulted in very little advantage to the workers.

ARCHITECTS AND HOUSING SCHEMES.

The following letter appeared in the "Pall Mall Gazette" of July 28:

Sir,—The writer of "Notes of the Day" in your issue of the 25th inst., in his reference to housing schemes, says:

"There is surely no reason why the building of the class of houses which are in demand should need an architect at all. There are heaps of designs, plans, and specifications in existence, by the use of which the needless expense of an architect can be avoided."

If these views are allowed to gain general currency, the public is likely to be very grievously misled on a matter which not only directly affects itself but is also of vital concern to the members of an honourable profession.

Your contributor's contention that the services of architects are unnecessary for the carrying out of housing schemes implies that the work can be done equally well by borough engineers or district council surveyors, neither of which class of public official possesses any expert knowledge of, or training in, architecture. Indeed, these gentlemen are appointed for their acquaintance with technical matters only remotely connected with the mother craft.

For it to be inferred that they are competent to include in their somewhat mundane duties such highly specialised work as the designing of housing schemes implies that men who have devoted their lives to the study of such problems have learned nothing that is not already known to the ordinary surveyor. One might as logically suggest that the Assouan dam might, in order to save the engineers' fees, have been entrusted to a firm of stone-masons!

It is probably news to the public that architects have been particularly hard hit by the war. One of the first things the Government did was to prohibit nearly all building operations unconnected with the production of war material. The result was that the architectural profession practically ceased to exist, and the financial position of many of its members was so strained that not a few would have been thankful to accept the current wage of a rag-picker, which, one reads, amounts to £4 a week. May I draw the following analogy?

Let it be supposed that the Government, as a war measure, found it necessary to suppress all journalism not directly bearing on propaganda or War Loans, and that when the ban was removed and starving scribes emerged from their dens and sought work, an anonymous architect groaning under the present price of newspapers, made a public appeal in such terms as these:

"There is surely no reason why the publication of the class of newspapers which are in demand should need journalists at all. There are heaps of excellent articles, essays, and political paragraphs in existence, by the use of which the needless expense of a journalist can be avoided."

FREDERICK CHATTERTON, F.R.I.B.A.,
Editor of "Specification."

27-29, Tothill Street, Westminster.

[We have already had occasion to deal with the wildly unorthodox heresy to which Mr. Chatterton very properly calls attention; but we now feel inclined to doubt whether, after all, it is worth while to argue against so transparently absurd a proposition as that no architect is required to superintend the building of houses.—EDS. A. J.]

SOCIETY OF ARCHITECTS SOCIAL.

The first of a series of social gatherings organised under the auspices of the Society of Architects in relation to the education and training of architects and the question of statutory registration was held on Wednesday last, when Sir Alfred Mond, F.R.S., Commissioner of Works, was the guest of the Society at luncheon at the Restaurant Frascati, Mr. Edwin J. Sadgrove, President of the society, in the chair.

The Chairman, in proposing Sir Alfred Mond's health, referred to the representations of Cabinet Ministers with reference to Labour, and in particular to the appeal of the King the previous day, which, in effect, emphasised the necessity of every man in every trade and profession working harder than ever before, producing more than ever they did before.

Sir Alfred Mond, in responding, said that of late years the responsible position of the architect had not been sufficiently recognised, though he was inclined to think that we were at the beginning of a great architectural renaissance. The work of the builder had passed and the day of the artist-architect had arrived. No longer should we see the setting up of rows of ugly terraces and straggling cottages in dreary streets, laid out without regard to plan or design. We had learnt at last that beauty in architecture was not a question of expense. Indeed, he would go far as to say that some of our over-elaborated examples of architecture would be all the better if their so-called decorative embellishments were removed. France benefited directly, and this country indirectly, by the training given at the Ecole des Beaux Arts, and he looked forward to the introduction here of similar training conditions. The question of State-aid was a matter well worth consideration—and one which the Ministry of Education might consider sympathetically.

Mr. John W. Simpson, President of the R.I.B.A., in proposing the toast of the Society of Architects, expressed pleasure at being able to share with the Minister who presides with such conspicuous ability over H.M. Office of Works and Public Buildings. He would like, he said, to take the occasion of assuring him that the R.I.B.A., of which it was his privilege to preside, was animated by the most sincere desire to assist the Government in the great enterprise to which it was committed.

Speaking on the importance of consolidating the profession, Mr. Simpson said that all were, he took it, inspired by the same motive: the wish for the advancement of their great and beautiful profession. Any differences they had were only as means; they pursued but a single end, and they only kept in mind that they had one and same purpose to benefit the nation and to glorify this great State of Britain. They would find no difficulty in achieving unity in policy and administration.

Concluding, Mr. Simpson emphasised the fact that although they had had the fill of war they had still to fight, not with guns and tanks, but for our existence as a great nation. Peace was but the first stage of war. There was no time or place for internal differences. They must join hands and carry the standard of their profession to the front.

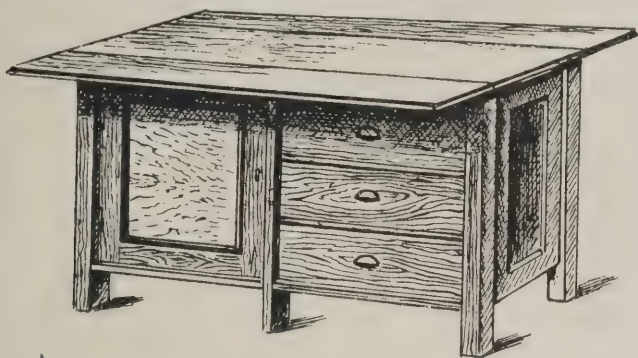
He gave them this message from the council: "If you are actuated—as I do not you are—by the same motives, the same ideals, we are ready to meet you halfway and more than halfway."

TRADE AND CRAFT.

Combined Table and Cupboard.

The illustration shows a piece of furniture, one of the registered designs of Messrs. Bovis, Ltd., of Upper Berkeley Street, W., which should be found very useful where the saving of floor-space is a consideration, as, in these days of economy, where is it not? There are three large drawers, a roomy cupboard, when required, flaps may be extended from the top of the cupboard, thus providing a very useful table. The extensions under the top of the cupboard, and by a ingenious arrangement form a perfectly level surface when extended. Access to

to regain a normal state in regard to supply, this has not yet been possible with all types, but substantial stocks of several of the most popular types of "Freezor" fans have been accumulated. As a ceiling pattern fan the "Koolah," which is here illustrated, is recommended. This fan is finished in black enamel with gold lines and mahogany coloured blades, of which there are three, giving a sweep of 54 in. The shaft of the armature is hollow and a tube passing through it permits the attachment of an electrolier, which can be used independently of the fan itself. It is only necessary to remove the knob at the bottom in order to fit the electrolier. It might also be mentioned that the motor is



cupboard or drawers is not impeded by equal falling hinged flaps, and the cupboards or drawers may be used without inconvenience whether the table top is extended or not. Messrs. Bovis, Ltd., state the cost of the article is very little more than that of an ordinary table or cup-

Considere Construction Company, Ltd. are informed that Captain H. E. Steinberg, who has been associated with the company practically since its inception, has been appointed manager of the company in succession to Mr. T. B. Shore, who has resigned. Captain Steinberg has also been selected a director of the company. The policy of the company will remain unchanged, and will be confined solely to the design of the details of reinforced concrete work for engineers, architects, and contractors. The company's address is 10, Victoria Street, Westminster, London.

"Winget" Business Expansion.

Due to the rapid growth of their business, especially in connection with concrete engineering schemes and reconstruction work, Messrs. Winget, Ltd., have moved their London office at Middlesbrough to 10, Wilson Street, opposite the Royal Exchange. Here they now have their own workshops, where their concrete block-making machinery and concrete slab-making mixer may be seen in operation.

"Freezor" Electric Fans.

General Electric Co., Ltd., of 67, Victoria Street, London, E.C.4, state that they are now able to give prompt delivery of the more largely used types of "Freezor" electric fans. As the war has appreciated the difficulties to overcome by manufacturing concerns in the transition from war work to normal production are very considerable, and especially is this so in the case of the "Freezor" Fan Works at Witton, Birmingham, where, during the war, the whole of the manufacturing facilities were devoted to the construction of fans for war requirements. In every endeavour has been made

fitted with self-oiling thrust bearings and impregnated windings.

The pre-war range of "Freezor" fans is still available, although immediate delivery of the types not specified above cannot be promised, but the G.E.C. will, we understand, give early dates of delivery for specific enquiries if addressed to 67, Queen Victoria Street, London, E.C.4, or to any of the numerous branches.

Metal Casements.

Messrs. W. James and Co., of Hythe Road, Willesden Junction, N.W., announce that, on the return of Mr. E. A. James from active service, they have now resumed business, and are in a position to execute orders for steel casements, leaded glass, etc., with the same efficiency as before the war.

COMPETITIONS OPEN.

August 14.—Bootle: Houses.

The Housing and Town Planning Committee invite competitive designs for new houses, suitable for the working-classes, in one or all three of the small blocks, each bounded by roads, on the committee's housing estate in Orrell. Conditions and particulars may be obtained from Mr. J. S. Tumilty, Town Clerk, Town Hall, Bootle. (See letter from R.I.B.A. secretary, printed below.)

August 15.—Leamington: Memorial.

The War Memorial Committee invite architects to submit designs for the proposed memorial to be erected in Euston Place, Leamington. The Committee have appointed Mr. H. V. Ashley, F.R.I.B.A., 14, Gray's Inn Square, London, W.C., to act as the assessor, to draw up the instructions and particulars, and to adjudicate on the designs received. Premiums of £100, £50 and £25 are offered for the designs placed respectively first, second, and third by the assessor. Particulars and plan of the site may be obtained from Mr. L. Rawlinson, town clerk, on payment of £1 is., which will be returned on receipt of a bona-fide design. Designs to be received not later than October 15. Any questions relative to the competition must be received not later than August 15.

August 22.—Bromborough: Laying-out.

The Bromborough Urban District Council offer a prize of £50 for the best scheme of laying-out for cottage purposes thirty-six acres of land at Bromborough, the selected plans to become the property of the Council. Mr. Badger, director of housing for Liverpool, has consented to adjudicate. Plan of site can be obtained from Mr. W. A. Weston, clerk, on payment of 10s., which will be refunded on receipt of design. Designs must be sent to the Council Offices by August 22 and be under motto.

September 1.—Armagh Electric Light Scheme.

The Armagh Urban District Council invite electrical engineers to supply plans, specifications and estimates for an electric light and power scheme for the district. A prize of £20 will be paid by the Council to the engineer who submits the most suitable scheme. The prize-winner will be appointed engineer at the recognised fees for such work. Plans, specifications, and estimates to be sent to the Town Clerk by September 1.

September 20.—Incorporated Institute of British Decorators.

The Institute is offering two travelling studentships of £25 each for competition. The drawings must reach the Secretary of the Institute, Painters' Hall, E.C.4, not later than September 20, 1919. Further particulars may be obtained from the secretary.

September 20.—Bridlington: War Memorial.

The War Memorial Committee invite designs for a war memorial. Premiums £100 and £50. Sending-in day, September 30. Particulars from the secretary, 79, Quay Road, Bridlington.

Gosford Rural District Council Competition.

The Competitions Committee of the Royal Institute of British Architects requests members and licentiates to refrain from taking part in the above competition, the conditions not being in conformity with the Institute Regulations for Architectural Competitions. The Committee is in communication with the promoters of the competition with a view to the amendment of the conditions.

Bootle Housing Competition.

With respect to this competition, we have received the following notification:

"I shall be obliged if you will kindly publish the following notice: The Competitions Committee of the Royal Institute of British Architects requests members and Licentiates to refrain from taking part in the above competition, the conditions not being in conformity with the Institute Regulations for Architectural Competitions. The committee is in communication with the promoters of the competition with a view to the amendment of the conditions.—IAN MACALISTER, secretary."

"Royal Institute of British Architects, 9, Conduit Street, Hanover Square, London, W.1."

COMPETITION CLOSED.

Taunton Housing Scheme.

The first prize for competitive designs for houses has been awarded to Mr. A. Lloyd Roberts (Manchester), and the second to Messrs. Leete and Watson (Weston-super-Mare).

The Week's News from Far and Near

Resumption of Practice.

Mr. O. P. Milne, F.R.I.B.A., who is again practising as an architect after having been demobilised, has opened an office at 97, Jermyn Street, London, S.W.1.

South Wales Sanatorium.

Sir Henry Webb has given £5,000 in memory of his only son, who was killed in the war, for recreation rooms at the South Wales Sanatorium.

Glasgow University Memorial.

The University of Glasgow proposes to erect a memorial chapel in honour of the 600 members of the university who gave their lives in the war, and their names will be inscribed on the chapel walls.

Leamington Housing.

Leamington Corporation are about to proceed with the erection of 164 houses. Two sites—Leicester Street and Tachbrook Road—have both been approved. The cost of the sites will be £3,106 and £0,050 respectively.

The London Society.

The July issue of the "Journal of the London Society" contains a number of interesting articles, including Professor Adshead's recent paper on "London and the Future of its Roads," which is given in full, and a comparison of Paris and London.

Architectural Partnerships.

Mr. Leonard A. S. Stokes, F.R.I.B.A., has taken into partnership Messrs. Drysdale and Aylwin, A.R.I.B.A., the firm to be known as Messrs. Leonard Stokes, Drysdale, and Aylwin, with offices after September 1 at No. 17, Buckingham Street, Adelphi, W.C.2.

War Memorial for Seaton Delaval.

The committee for Seaton Delaval war memorial scheme have decided to erect a nurses' home and six cottages for soldiers' widows at a cost of £3,000. The Seaton Delaval Coal Company have granted a site and a subscription of £250. An appeal is made for the remainder.

Business Appointment.

Mr. T. B. Shore, who has been manager and director of the Considère Construction Company, Ltd., since its formation in 1908, has severed his connection with that company, and has joined the board of Sir William Arrol and Company, Ltd., as the director responsible for the reinforced department of the firm.

Glassworks for Sheppey.

The Isle of Sheppey is to be the site of the new glass factories. Ten acres of land have recently been purchased at Queenborough for the purpose of erecting works and plant for the manufacture of window glass, and the disused cement works there are also to be converted into a factory for the manufacture of glass globes.

Architects for Liverpool Building.

Messrs. W. E. Willink and T. H. C. Thicknesse, of Cunard Buildings, Liverpool, have been appointed architects for the Harrod Liverpool buildings to be erected on the St. Peter's Church site, Church Street. Operations are to begin immediately. The building is to cost £1,000,000.

Irish Building Schemes.

According to a statement issued by the Housing Committee of the Local Government Board, local authorities have lodged proposals to acquire 224 sites. The area involved is 1,034 acres. Up to July 19 forty-one sites, covering 789 acres, sufficient for 5,586 houses, has been approved. The proposed sites are located

as follows: Leinster, forty-seven; Munster, 143; Ulster, eighteen; Connaught, sixteen. The committee urges local authorities and public utility societies to lodge plans, and promises every possible assistance.

St. Pancras Roads.

St. Pancras Borough Council, in petitioning the Government to institute an inquiry into the high prices asked for road and building material, point out that wood blocks have risen from £22 to £27 10s. per thousand in the last few months, and the completion of an extension of an electricity power house is to cost £73,300—double the amount of the pre-war estimate.

Loughborough Housing Scheme.

Loughborough, which already has sanction to borrow £3,900 for land to be used in the housing scheme on the Derby Road, is to apply for £5,290 for making roads and sewers and another £900 to extend the sewers to join up with the new site. One hundred and thirty houses are to be built, so that £10,000 will have been expended before the houses begin.

Leigh War Memorial.

It has been decided to erect a war memorial at Leigh, Lancs., and a committee is considering schemes and proposals. One of the suggestions is that a large civic memorial hall should be erected, also a club for discharged soldiers and sailors, and that scholarships be provided for the children of the 680 men from Leigh who fell in the war. An attempt is to be made to raise £30,000.

Housing of Farm Workers.

At a meeting of the Agricultural Wages Board, held at 80, Pall Mall, S.W.1, Major Astor, Parliamentary Secretary of the Ministry of Health, explained the housing policy of the Government, and invited the Board to consider its bearing on the valuation of cottages occupied by farm workers in part payment of wages. The Board referred the question to the Committee on Cottages for their consideration and report.

French Beaux-Arts Awards.

The following awards have been made by the jury of the Ecole des Beaux-Arts: Second-class Projet (subject, a small library). First mentions, M. Burgat (pupil of M. Jaussely) and M. Delahalle (pupil of M. Umbdenstock). There were forty-eight other mentions in this class. General Construction (a large printing office): Third Medals, M. Lapinte (pupil of M. Jaussely) and M. Muller Albert-Paul (pupil of Héraud). Thirty-three other mentions were also awarded.

Retford Housing Scheme.

At a meeting of the Retford Town Council, the Town Clerk (Mr. W. P. Jones) explained that plans for the housing scheme had been lodged with the Ministry of Health, and the sanction of the Council was required for the formal application for loans for sites amounting to £5,250. The sites would provide for 150 houses adjoining the great North Road. The cost would amount to £101,000, being £600 each plus land, £5,000; building materials, £80,000; £6,000 streets and main roads, and £9,500 the cost of erection.

Scunthorpe Housing.

The Scunthorpe Urban District Council has decided to take over from the Frodingham Estates Co. the site at Brumby for the carrying out of the housing scheme. The site is sufficient for about a thousand houses, and they will not average ten to the acre. Included in the

site is about twenty-six acres which committee suggest should be utilised as a public park. Near by will be a reservoir and so it is possible that public baths will be built without encroaching on the water supply. The land is to be purchased from the Frodingham Estates Co. at per yard.

Building Industries Consultative Board.

It will be remembered that at the instance of the Royal Institute (acting in conjunction with the National Federation of Building Trade Employers and Operators, the Society of Architects, and Surveyors Institution), a Building Industries Consultative Board has recently been formed in order to investigate the causes of present stagnation in the trade and organise its activities. In response to a request for detailed information as to procedure of the Munitions Ministry regarding the purchase and distribution of building materials, a deputation of the board was recently received by Mr. W. Cock, M.P., Parliamentary Private Secretary to the Minister, who undertook to place at their disposal the facts and figures relating to the subject which have been compiled by the Department.

Bangor Science Buildings.

After consultation with Sir Aston Webb who had been asked to act as assessor of the proposed competition for the new Science Buildings, the Joint Building Committee of the Heroes' Memorial Executive Committee and the College Council have decided to entrust the work of designing the new buildings to Mr. Henry T. H. F.R.I.B.A., the architect of the Arts Buildings completed in 1911. A Welsh architect, Mr. Harold Hughes, A.R.I.B.A., has been appointed to act in association with Mr. Hare in carrying out the scheme for the new Science Buildings. Plans being prepared, in accordance with the physics and chemistry block will be placed at the corner of Deiniol Road, Love Lane, and the agricultural and forestry block (including the Public Health Laboratory) at the corner of Deiniol Road and Glanrafon. The space immediately in front of the present Arts Buildings will be preserved for the memorial proper, containing the names of all the men of North Wales who have fallen in the war.

Luton Housing Scheme.

Luton Town Council has entered into an arrangement under which the following local architects will co-operate in carrying out work in connection with the housing scheme, under which 1,000 houses are to be erected: B. C. Deacon, P. C. Blox, R. Brown and Son, J. Cumberland Sons, Franklin and Deacon, R. M. G. Frey, W. H. Guest Hubbard, F. Manning, and W. H. Pearson. The architects will jointly execute plans, including drawings, specifications, etc., supervise the execution of the work, and issue certificates to contractors, and attend the committees and conferences with the Ministry of Health, the borough officials, etc. The fees are to be those prescribed by the Royal Institute of British Architects, and the Executive Committee will be appointed with a chairman who will be solely responsible to the Council and the Housing Committee for all matters connected with the scheme. They undertake to avoid repetition of design as far as possible, to prepare a sketch lay-out plan for one site free of charge, and, if desired, to consult with the Borough Surveyor on the lay-out of the sites.

The Architects' Journal
Wednesday, Aug. 13, 1919

The Architects' Journal
Volume L. No. 1284

THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



ANTONINE PLACE AND COLUMN, ROME.

(From the engraving by Acquaroni.)



THE CENOTAPH, WHITEHALL. SIR EDWIN LANDSEER LUTYENS, R.A., F.R.I.B.A., ARCHITECT
(From a pencil sketch by Harold Falkner.)

THE ARCHITECTS' JOURNAL

Joint Editors: A. E. RICHARDSON, F.R.I.B.A., and J. FINDLAY McRAE.

27-29, TOTHILL STREET

Wednesday, August 13, 1919 WESTMINSTER, S.W.

Volume L. No. 1284

The Doctor and the Architect

It is highly probable that the Housing and Town-planning Act which received the Royal Assent on the last day of July, will be cited by the philosophical historian of the future as a definite waymark in the slow process of social evolution. All that at the present moment the Act seems to most persons to denote is the realisation of State aid for the provision of dwellings for workers. It would be interesting enough at that; but every reader of these lines will unhesitatingly admit that it has a much deeper significance. It denotes—or, rather, it acknowledges and seeks to palliate the most serious breakdown that has yet happened to the social machine.

To inquire how and why this breakdown occurred would involve rather deep delving, in which we should inevitably strike several very annoying springs, such as those that render costly, exasperating, and sometimes idle, so much physical foundation work. By the springs typified the contentious issues that so complicate the subject as to delay progress and postpone reconstruction till one almost despairs of completion.

Nobody will have the hardihood to deny that the question of providing decent houses for the people has been always complicated with party politics and sophisticated with class prejudice, nor that, had not the war hurried, this falsification or evasion of the real issues might have gone on everlastingly, or, what is more probable, until some frightful epidemic had demonstrated the criminal folly of dealing hypocritically, casually, and insincerely with a matter of vital consequence. Always there have been three types of person prominent in their endeavours to influence the housing of the poor—(1) the un-souled skinflint who thinks any hovel good enough for the poor; (2) the opportunist politician, who, attacking or defending the landed interest that controls housing, is entirely blind to what is actually at stake; and (3) the self-perfervid humanitarian who scorns all material interests that are not purely hygienic and who seems to think it essential to the success of national housing that the "landlord class" should be irretrievably ruined. There are, of course, divisions and sub-divisions in each of these categories. For example, the third may be said to include the sanitarian (medical man or other), whose enthusiasm is for hygienics rather than for humanitarianism, and who may be said to love sanitary science for its own sweet sake, looking at it largely and comprehensively without troubling himself very much about its direct or indirect incidence. Because he is no sentimentalist, but a firm believer in vital statistics and in the logic of hard facts, persons in power hearken to his words; they hear and tremble, and he gets things done. It is to the hard-headed medical officer of health, who is quite commonly a broad-minded humanitarian as well as a scientific compiler of bills of mortality, that we owe almost every practical step taken during the past thirty or sixty years towards securing sanitary betterment and the improvement of the working-class dwelling from foundation to roof-top.

Every architect is very well aware, whether painfully or pleasurably, of the power and influence which the m.o.h. can bring to bear on matters of housing, whether in its general aspects or in its smallest details. Where a local authority will turn a deaf ear towards the architect or the civil engineer, it will listen in shuddering dread to the minatory voice of its m.o.h., who, now that a Ministry of Health has been formed with the express object of backing him up, will be held in as much awe as a tribal medicine-man. It is inevitable that in some few instances he will abuse his plenary powers—will set up, within his own particular domain, a petty tyranny, from which the chances of escape will be rather hopeless; for what is the use of appealing from a doctor of medicine to a Ministry of Health?

Hitherto, however, the doctor's influence on housing has been entirely beneficial. It has been much stronger than that of the architect, than whom the doctor has had wider opportunities, and possesses more imposing credentials—that is to say, the architect was very seldom called in to build such houses as the doctor was required to inspect, while threats of disease and death are heeded when they come from the doctor, but if the architect ventures upon the obliquest of hints at them he is promptly told to hold his peace and stick to his last.

It has been proved times out of number, however, that the doctor and the architect working together are irresistible; and of this mighty combination much more is to be seen in the future. In the past, under the old comparatively lax conditions, it has been highly effectual. Hospitals, asylums, schools, and factories, bear witness to its triumphant success. Often the attribution of such buildings is—"The architect is Mr. Thingumbob, F.R.I.B.A., in association with Dr. Whatnot, chief medical officer." In most of these cases the doctor and the architect, like the walrus and the carpenter, "were walking hand in hand," if not quite "hand in glove," and the Philistines could not withstand their united onslaught; but on the question of housing it was foolishly or wantonly held, before the Act discredited the view, that the architect was superfluous. As we saw only last week, some benighted scribbler for an evening newspaper still clings desperately to that mean and stupid notion. Even the doctor, acutely perceptive man of science that he is, did not understand quite definitely that, to be thoroughly sanitary, the building must be of goodly design—because it may be fairly and truthfully said of the spirit as well as of the body that its hygienics may not be neglected with impunity: that an offence against the sight may be as dangerous as an assault upon the sense of smell. If this truth were generally recognised, ninety out of every hundred buildings would be condemned by the inspector of nuisances. But your doctor of medicine, bless him! being accustomed to call to his aid an anaesthetist, is usually wise enough, on occasion, to take the same precaution in a case in which the exhibition of æsthetics is, as he would say, "strongly indicated."

It may be suspected that another debt that the architect owes to the doctor is the initiation of the panel system. Are not health and housing most intimately and quite inalienably associated? For the workers, as a whole, were so wretchedly housed, that they persistently ailed in such large numbers as to make necessary the empanelling of doctors; whence followed the empanelling of architects, who, we take it, will sit at round-table conferences racking their wits to discover fresh and infallible means of circumventing their very good friends the doctors, for whom the inevitable hour is fast approaching when they will be paid for keeping us well instead of for pulling us round (or failing in that effort) when we have fallen ill. Not that their present method of fee-pouching is more paradoxical than that of the architect. It is only

more prolific by a hundredfold. But the architect has the panel idea, even if he cannot come within sight of the doctor's panel profits; and the machinery thus created will help to make him a more "compleat architect," and will give him a closer insight into the ways and wants and whims of the poorer members of the community—toilers and moilers who hitherto have had to do with the skilful ministrations which, we are sure, the architect will ungrudgingly devote to their service. Such a man will not make him rich, but that is no reason why he should shrink from it; rather he will see here a special strong reason to embrace it, and to put his heart and soul into it; for now he has the opportunity of his life to do the State some service by building in beauty and truth, and doing it for love.

J. F. MOORE

Notes and Comments

The Institute and the Society.

IN his speech at the luncheon given by the Society of Architects to H.M. First Commissioner of Works, the president of the Society (Mr. Edwin Sadgrove) included an assurance that the Society's Parliamentary propaganda to secure the passing of a Registration Act will be actively resumed. For five-and-thirty years statutory registration has been one of the chief objects of the Society—is, in fact, often said to be the aspiration that called it into existence and that keeps it alive. Not but what the Society fulfils many other functions of approved utility; but this is fundamental, and to abandon it would be equivalent to committing the happy dispatch. On the other hand, to pursue it faithfully, valiantly, but without adequate backing from the Profession, may indeed extort the admiration which in this country is never grudged to pluck and perseverance, but is nevertheless a regrettable waste of energy and treasure. So long as the R.I.B.A. and the Society act independently in this matter, the only result that can be confidently expected is the recurrent reminder that rival organisations of architects exist. This form of advertisement, however, is extravagantly expensive, and the return upon the investment will be richer in derision than in profit; for if the general public do not laugh at our absurdity in flinging away money upon the nearly simultaneous promotion of two rival Bills in Parliament, which must inevitably defeat each other, then the national sense of humour must have declined rather seriously. With respect to Registration, the difference between splendid success and farcical failure depends entirely on whether the Institute and the Society lay their heads together or knock them together. Which is it going to be?

Sir Alfred's Anti-Climax.

Sir Alfred Mond, H.M. First Commissioner of Works, in whose honour the Society of Architects gave the luncheon, reiterated the truism that "the great life of a nation is expressed in architecture, which is the living monument and symbol of the life of a people." It is this, he added, "which makes the architectural profession so great and at the same time so responsible. The architect is not for his own time; he is for generations to come and for all time. When he puts up an elevation he has to remember that someone will look upon the result of his labour and say, 'Who created that atrocity?' or 'Who created that great work of beauty?'" Far be it from us either to split hairs or to contradict a First Commissioner of Works; but we really cannot help thinking that Sir Alfred has here fallen into some confusion of thought, or at least of utterance. True it is that architecture inevitably reflects the character of the people (and vice-versa: since there is always interaction); but it is impossible to follow Sir Alfred's development of the argument. He may rest assured that an artist when designing does his best to become wholly absorbed in his work. If he stops to ask any question about it at all, the form will certainly not be, "What will posterity think of me?" for he knows that self-consciousness is the negation of art. Again, what the great majority of architects have to consider is not what sort of time-defying monument they can erect as a memorial of themselves or of their generation, but how best they can serve the occasion to which they are called; but a little grandiloquence is not out of order when it flatters those who have given one a luncheon.

"The Man who Loved London."

A rather grimly humorous short story by Mr. J. S. Fletcher, in the current issue of "Chambers's Journal," is the vehicle for some sly but scathing satire on London monuments. The Right

Honourable E. J. Jenkinson-Pelham, M.P., First Commissioner of Works, spent his week-ends in seclusion. "Unostentatiously clad in an old tweed suit and carrying his own bag, he would go off to a rustic inn which was seven miles from the nearest railway, and 'was an old—a very old—house.' It had a thatched roof and diamond-paned windows." But its age, its roof, and its glazing had no more to do with the case than its "old-world garden, full, at the proper time, of hollyhock and thyme, and big, thoroughly English, red roses." Neither the inn nor its garden comes into the story. They are said to be "decorative effects." The real business begins on the bank of the fishing pond, where the First Commissioner, disguised as "Mr. Jenks," is discovered by an elderly gentleman calling himself the Man who Loved London. To Jenks he reveals a wish "to see London swept clean of all the hideous, vile, abominable atrocities which disfigure her! London, sir, would be the most beautiful city in Europe if she were purged of certain sores." "Such as what?" asked Jenks. "The railway bridge at Charing Cross," promptly replied his companion. "Sir, that bridge is an offence! It is enough to bring down on us the thunders of the gods!"

Charing Cross Railway Bridge.

Then the "so-called statues to our public men" are denounced by this elderly iconoclast, who reviles also "that awful thing known as the Albert Memorial," while the statue in the Abbey and in St. Paul's should be broken up, the Crimean Memorial blown up, the Achilles statue ground to powder. "As for the Surrey side of the river, the effigy of the frontage from Lambeth to Deptford should be completely swept away—by dynamite if necessary." He would remove the violence—with as much noise as possible—the Bank of England ("because it is utterly stupid that such a poor obscure feeble place should house our main stores of wealth") and St. Paul's (several quite intelligent people believe it to be a very fine house, while foreigners invariably take it for a bourse—"it should be blown up, and something Gothic put in its place"). The First Commissioner will not do his duty, something will happen. Things began to happen by some person or persons unknown, striking off the head of the statue of Queen Victoria at the Albert Memorial. Then the statue (by Scraper, R.A.) of Field-Marshal MacGrowther, in Waterloo Place, was shamefully maltreated with a sledge-hammer. The Queen Anne group in front of St. Paul's was blown to fragments. Finally, when the House of Commons was crowded with listeners to a glowing peroration by the Prime Minister, the shock of a terrible explosion threw the speaker half-way across the table, extinguished all the lights, whisked the Speaker's wig off his head. "It's Charing Cross Railway Bridge! Charing Cross Railway Bridge! Charing Cross Railway Bridge! Blown up! Charing Cross Railway Bridge! Blown to atoms! Friends, do not weep. This is only a story. And we should repress the desire that it should come true. Our office, having been built in the eighteenth century, is not so strong as it was in its lusty youth; and Charing Cross Railway Bridge is near to be pleasant, whether in view of such contingencies as those imagined in Mr. Fletcher's story, or whether unpunished."

Working-class Flats.

At a conference held last Wednesday between Dr. Addison and members of the London Housing Board, the subject specially under consideration was the conversion of houses into working-class flats. It was resolved to take immediate action on this line, "so as to secure as much additional accommodation as possible before the winter." We may be pardoned

ing that this announcement is peculiarly gratifying to cause it promises to materialise a suggestion that we years ago, and upon which we have been insistently as occasion warranted. It was in our pages, more-what Messrs. Morris and Parnacott took up the subject considerable detail, indicating whole districts to which was applicable. Their contention and ours is that re in London thousands of well-designed houses that, little structural alteration and a good deal of repair, be converted into dignified dwellings. It is with full sin- therefore, that we congratulate Dr. Addison and the Housing Board on their determination to give effect advice. They are taking a step that will ensure comity as economy.

Land Values and the Finance Act of 1909-10.

for the war, land values would have been dealt with a ars ago—immediately after the Lumsden case had trated the iniquity of the land clauses in the Finance 1909-10. It is only now that we are getting into grips e subject, the first meeting of the Land Values Select tee of the House of Commons having been held last day, August 6. As the inquiry will reopen the thorny ighly complicated subject of land values, the labours of mtee are likely to be long and difficult, but that they e be unduly protracted the appointment of so business- chairman as Sir T. P. Whittaker is a reassuring ee. It is gratifying to see that Major Barnes is a of the committee. His training and experience as t and surveyor, his fair-mindedness, his high sincerity, it is not an impertinence to say so—his uncommon, combine to make him a most effective force in an king in which the need for these qualities is specially the land forming, as everybody sees quite clearly, the a basis of all social and economic questions, while its a building is obviously direct and vital or fatal. If this tee can succeed in sweeping away the legal and other s to easy transactions in land it will richly earn the e of the nation, and especially of the builders, who will s report with the utmost interest. Impatience must e, curbed, however; for the first decision at which the ee arrived was that it should not commence the taking nce until after the Parliamentary recess—a wise enough in the circumstances, seeing that, “in the prime of -time,” most of the witnesses would be away holiday-

The Whitehall Cenotaph.

ssent from the popular worship of the cenotaph at all seems almost sacrilegious. We must nevertheless our conviction, which is strengthened every time we on the monument, that a generous and reverential, rather than a reasoned judgment, has caused the h to be acclaimed a masterpiece of art. Even such as tters to the editors of daily newspapers are beginning ss their misgivings about its fitness to endure the test

Thus a letter in the “Daily Chronicle” of August 7 with this very pertinent question: “Apart from its d association, does the cenotaph symbolise the sorrow-reverential memory of the awful host of our glorious

In his next passage this correspondent adopts a of criticism that we have always strongly deprecated nate unfairness—that of belittling or besmirching an y likening it to something of known or obvious dis- It is the method of imputed degradation. Thus: ad to examine it [the cenotaph] long before discovering e the top of a railway-viaduct pier, was superimposed ng like a commonplace tomb.” To drag in the obscene e of a railway-viaduct pier is as unfair as the forced on of the London County Hall to a blacking factory, a earlier slander on the campanile of Westminster al, which to the coarse-minded has been no better than ified chimney.” This correspondent gives a further ck to our faith in his taste by adding: “If the per- structure must be as designed, could Sir Edwin ve somewhat a dramatic touch by executing the oration in some striking other material than the bier

It would be a pity if anything were permanently which did not in some sort explain itself.” It would ater pity still if, by disturbing it in the way suggested, y of the design and its glamour should vanish, leaving taph in the unhappy situation of a discarded favourite. t be said that, in reproducing as our frontispiece this . Harold Falkner's fine pencil sketch of the cenotaph, is inconsistent with the opinion, we should reply that it is ssible to recognise the merits of a work of art without ove with it. Our first impulse was to join in the high- chorus of praise of a monument that, whatever its definitely architectural, and we keenly regret that we

The Plates Described

Union Passenger Station at Richmond, Virginia, U.S.A.

THIS elegant railway station, for the illustrations of which we are indebted to the “American Architect,” is, as we have noted at the end of the article on page 198, an example of the thoroughness with which American architects are carrying on the fine Classical tradition that is now so firmly established in the States. There, architects of the highest eminence, like Mr. John Russell Pope, are always asked to design the important railway stations; but over here, imagination reels at the bare notion of Sir Aston Webb, Sir Edwin Lutyens, Mr. Ernest Newton, Mr. Henry T. Hare, or Mr. John W. Simpson, being commissioned to do such work! But, then, the Americans pride themselves on their practicality, we on our artistic taste! The plan shown on page 199 will be admired for its masterly simplification of rather complicated partitioning.

Fontaine de l'Abbaye, Rue Childebert, Paris.

The elevation and section of this beautiful fountain, with its highly elaborated aquatic motifs, might well serve as an inspiration for a naval memorial fountain to be set up, say, at Portsmouth, or at some other seaport whence went forth so many of our gallant sailors to face death. (See page 205.)

Vestibule of the Palais de Justice, Paris.

This vestibule serves both the Assize Courts and the Cour de Cassation. No part of the interior of the Palais de Justice is of greater architectural significance than this vestibule, which is the most notable portion of Duc's work. It has been described as Greek in its closed portico, Roman in its arcades, French in its general aspect. It is symmetrical without any forced regularity, utilitarian yet not crude, classical yet devoid of pedantry. (See pages 210, 211.)

Proposed New Church of St. Mary, Kettering.

The fine tower that is the dominating feature of this church, as the tower of a new church should be, is intensely modern in feeling, notwithstanding its loyalty to certain inveterate traditions. Old George Fox could hardly have called it a “steeple-house” on the strength of its crowning feature. It would appear that the steeple and the spire are being superseded by a taller tower with a less pronounced form of finish, and that either the campanile at Westminster is very potent in its influence, or else large numbers of church architects are going to the same source of inspiration upon which J. F. Bentley drew when he conceived the greatest ecclesiastical building of modern times. That the campanile form of tower, whether it have the Italian or the Byzantine touch the more strongly emphasised, has of late years come into high favour is evident in the Architectural room at the Royal Academy Exhibition, where Sir Edwin Lutyens has a model of a church in which the campanile is very prominent, and where almost all the designs of churches shown have towers of similar character. Of course, the great advantage of the campanile tower, as compared with the more essentially English form, is the larger scope it gives the architect to display his skill in decorative design. This freedom many architects have abused, but Messrs. Gotch and Saunders are not of the number, they knowing extremely well the value of sober dignity in a church, and of reticence in all art. Mr. Gotch's reputation as our greatest living historian of architecture is a safe guarantee of scholarly treatment. (See page 203.)

Bank Premises in Fleet Street, London.

Only Colonial and foreign visitors to London need be told that Sir Edgar Boehm's famous or infamous Griffin, seen on the right of the plate (page 215), marks the site of Temple Bar, and the boundary between the cities of London and Westminster. On the opposite side of the road are George Edmund Street's mock-mediaeval Law Courts, and Mr. John Gibson is to be congratulated on his courage in breaking away from these powerful and sinister influences. His bank, indeed, with its well-disposed arched or pedimented windows, stately Order, neat balcony, and deep sheltering eaves, is the one redeeming feature in a district that badly needed this mitigation of a pervasive ugliness, of which the Griffin or “Thing of Beauty” is the climax. In reading Mr. J. S. Fletcher's diverting little story—noticed on the preceding page—of the havoc wrought on hideous structures and sculptures by “the man who loved London,” one is surprised that the delectable Griffin should have escaped attention, for it is renowned as the most monstrous insult to common sanity ever devised for setting up in a public thoroughfare—a very nightmare of gratuitous ugliness. Perhaps it is admired for its perfection in that kind, as one admires the supreme ugliness of a bulldog; but in either case it is a horrible fascination, bordering on morbidity of passion.

Union Passenger Station, Richmond, Virginia

ONE of the most interesting examples of modern American architecture is the Union Passenger Station at Richmond, Virginia, which has been erected from the designs of Mr. John Russell Pope, architect. The building, the exterior of which is constructed of American limestone, has a frontage of 240 ft. and is 118 ft. deep. On the exterior the east and west wings are each three stories high and on the inner court each wing has an additional storey, all of the stories above the ground floor in this court being used for administration purposes. The only ornamentation is that about the large clock over the entrance and the Roman panel reliefs on either



side of the second storey windows of the end pavilions of the portico. Supporting the clock are allegorical figures in low relief representing Progress and Industry, executed by the sculptor Ulysses Ricci, while the carved seals in the adjoining panel are those of the United States and Virginia. As will be seen from the illustrations which are reproduced from the "American Architect" the wide concourse of the white waiting-room, under the dome, is flanked on one hand by the coloured waiting-room and on the other by the lunch room. Each of these subdivisions has its easily communicable dependent rooms and accessories, all planned as to their respective areas to afford quick and efficient service, especially at those times when traffic is abnormally large. The information desk is placed with particular reference to the lanes of movement of the intending passenger. The wide concourse and vestibule leads straight through the central axis of the plan.

The second and third floors provide ample accommodation for the large executive force of the railway, while on the fourth floor there is arranged the Railroad Men's Club on the one side and a large, at present unfinished, space to provide for the growth of executive departments. In the interior of the waiting-room the colour is grey with walls of a plain American limestone with a Napoleon grey marble wainscoting extending to a height of ten feet. The domed ceiling has a plaster finish above four large stone arches, with four pendentives supporting the corner piers. The structure of the dome is steel. The floor of the concourse is of terazzo with marble slab borders. The doors and interior metal work are painted a grey green.

A feature of the interior is the suspended globe hanging from the dome and upon which is traced the outline of the continents. This globe is eight feet in diameter and hangs suspended within a double horizontal ring of bronze ornamented with the signs of the zodiac. Suspended in such a way that supporting chains are not visible, this ornamental feature appears to float in space. The lateral concourse is a long gallery extending out over the existing tracks of the loop system. It is approximately 250 feet long and 54 feet wide, and is supported on the inside with plaster walls and a wainscoting of Tennessee marble. Access to the outgoing tracks is reached by enclosed stairways on the east side of the concourse, while an incoming traveller reaches the concourse by ramps which approach the concourse level from the west. Each track platform serves two tracks of 25 feet wide and covered with a canopy extending a short distance over the concourse to enable passengers to enter and leave without exposure to the weather. These canopies are supported by cast-iron Ionic columns.

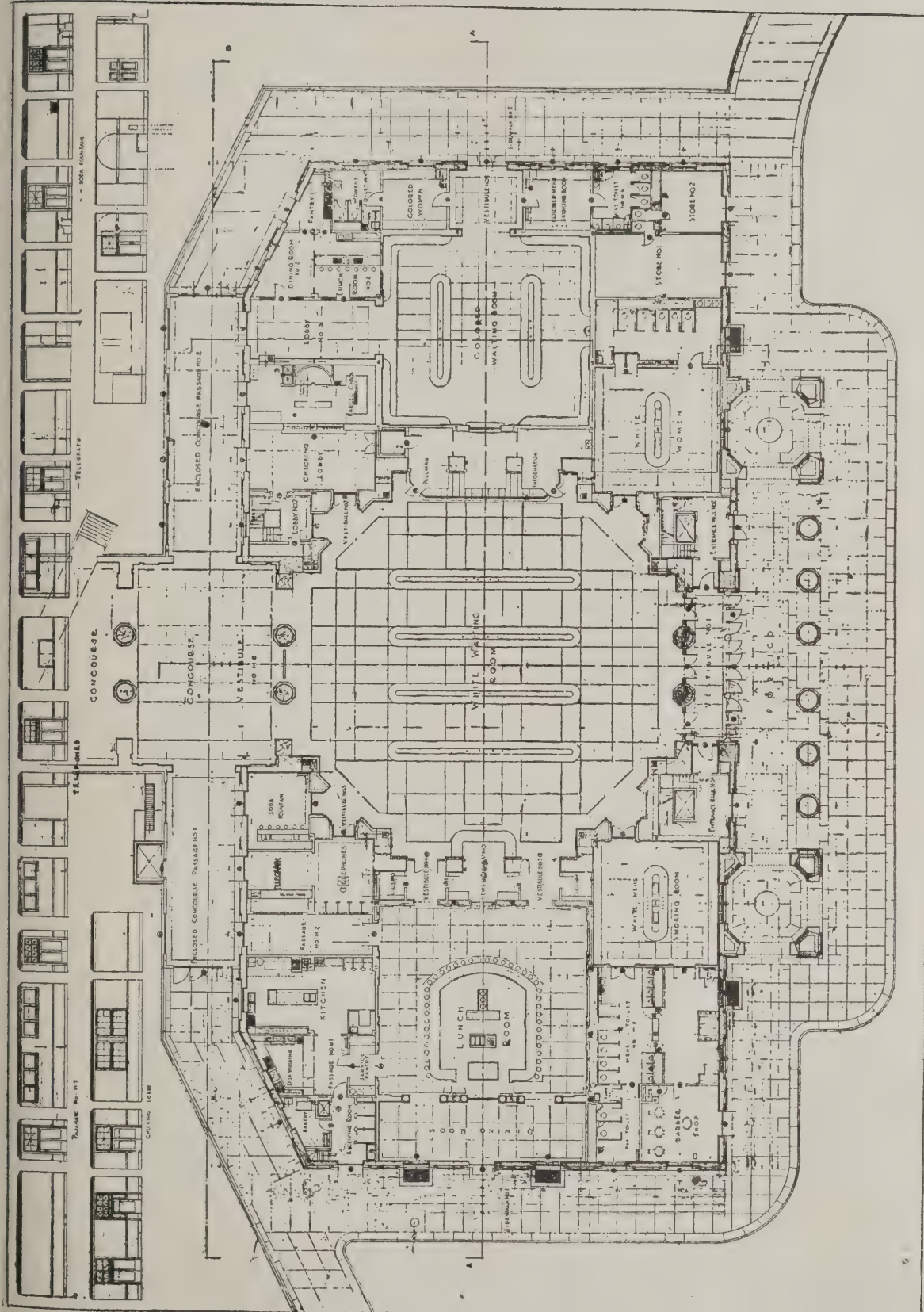
The station baggage is all handled on the basement level on the east wing of the building and on a level with the street. From this basement there is a separate service drive way connected with the baggage and checking service on the ground floor by a chute and elevator. Space is also provided on the basement for the Federal mail service, a recreation room for trainmen and conductors, and the offices of the station. The various other subdivisions of the basement may be seen by reference to the plans.

The general lay-out includes a building for express material, a heating plant, two electro-pneumatic plants from which the train movements of the whole terminal station are controlled, a supply house, oil house, and ice house. The express line has been placed across the tracks from the station, and the building is of light-coloured brick. It is served by one short track and one through track. The platform between the two tracks is 12 feet wide and 350 feet long, giving unusual space for the handling of express material.

Every fresh example of American railway station architecture affords further proof that in this class of building we have much to learn from our transatlantic cousins. By the design intended chiefly the persons who control railway building, it would be absurd to suppose that American architects have discovered a nobler way of building railway stations. In fact that in our own country such work is nearly always entrusted to an engineer who has had no architectural training, and moreover, is severely restricted as to cost—a mistaken saving and a false economy that the Americans would laugh at as "bad business." On such points our railway magnates are sadly in need of conversion.



UNION RAILWAY STATION, RICHMOND, U.S.A. JOHN RUSSELL POPE, ARCHITECT.



UNION PASSENGER STATION, RICHMOND, U.S.A.: PLAN. JOHN RUSSELL POPE, ARCHITECT.

Knighthood for a well-known Architect

SIR BANISTER FLIGHT FLETCHER, F.R.I.B.A., F.R.G.S., F.S.I., who received the honour of knighthood at the hands of His Majesty the King the other day, was born in 1866, a son of the late Professor Banister Fletcher, F.R.I.B.A., of King's College, London.

He was educated at University College, London, and later at the Royal Academy Schools, where he was articled to his father, afterwards being for some time with Col. R. W. Edis, F.S.A., Mr. William Henman, F.R.I.B.A., and Mr. Thomas Blashill, F.R.I.B.A.

He commenced practice in 1889 in London, and is now a partner in the firm of Messrs. Banister Fletcher and Sons, whose works include St. George's Hall and Schools, Old Kent Road, S.E.; London County and Westminster Bank, Hythe;

designs submitted in architectural competitions for the Wesleyan Centenary Hall and the Crewe Town Hall.

Sir Banister Fletcher was awarded the A.A. Medal for Design, 1888; the Godwin Bursary, 1893; the Tite Prize Medal for Design, 1895; and the R.I.B.A. Essay Medal, 1896.

Amongst his publications are "A History of Architecture on the Comparative Method," which is a favourite class-book, and has gone through many editions; "Andrea Palladio, His Life and Works"; "The Influence of Material on Architecture."

He has travelled extensively in Europe, Asia, Palestine, Greece, the United States and Canada, and was formerly Hon. Secretary and Vice-President of the Architectural Association, and Examiner to the City and Guilds. As he is Senior Sheriff of the City of London, he should in due course reach the dignity



SIR BANISTER FLIGHT FLETCHER, F.R.I.B.A.

Anne's Vestry Hall, Blackfriars; King's College School, Wimbledon; St. Aidan's Church, Stratford; 30a, Wimpole Street, W.; Observatory House, Westgate-on-Sea; the Georgian House, Potter's Bar; Hornsey Hall, Norfolk; and houses at Artishead, Hertford, Hampstead, Pinner, Walton Heath, London, Leckford, Weldon Park, etc. Sir Banister also carried out restoration work at Old Palace and St. John's Parish Church, Croydon; shops and offices at Kensington, Oxford Street, Charing Cross Road, W., Fleet Street, E.C., Savile Row, and factories in Lower Thames Street, E.C., Stratford, Brick Hill, E.C., Kettering, Clapham, and Richmond. He is also successful in obtaining premiated awards for his

of Lord Mayor. He is a member of Council of the Royal Institute of British Architects.

Sir Banister Fletcher will receive the unanimous congratulations of the profession upon his knighthood, which is as much a compliment to architecture as it is a personal honour. Sir Banister adds a further distinction to the list of architectural knights, of whom there are now a round dozen—Sir Aston Webb, P.R.A., Sir Reginald Blomfield, R.A., Sir T. G. Jackson, R.A., Sir E. L. Lutyens, R.A., Sir Frank Baines, Sir Henry Tanner, Sir J. J. Burnett, Sir Robert Lorimer, Sir Ernest George, Sir Charles T. Ruthen, Sir A. W. Gelder, and Sir Brumwell Thomas.

Architectural Causerie

IT is one of the designs of this Journal to acquaint members of the architectural profession with facts directly affecting their interests. For this reason I am constrained this week to focus attention on No. 9, Conduit Street, which James Wyatt built in 1779 as a town house for Mr. Viner. Little did the architect think, when he superintended the finishing of the front in Higgins's cement—perhaps crossing to the opposite side of the street to admire the Ionic pilasters—that the day would come when his own bust would be given a place inside the building, together with the portraits and drawings of the foremost English architects. Yet, by a strange coincidence, the stately town house became the home of the Architectural Union Society, and eventually the property of the Institute.

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Now, as an architect entertains himself in making preliminary sketches of his conceptions, with sundry marginal notes and odd tricks favouring this or that especial detail of his selection, so I have struck out the main items of this week's causerie: perhaps without any regard to order or sequence. There would be no pleasanter occupation for my pen than to treat of the premises in Conduit Street much as the proud owner of a rare cabinet prepares an inventory of every drawer and secret receptacle. I should like to deal with the portraits in the Council Chamber, the bust of Jones and that of Wren, the plaster cameos and intaglios bequeathed by Crace, and the rare volumes in the library. It would be difficult to decipher some of the old writings and harder still to catalogue the working drawings of many of the famous buildings of England; but, given time, assistance, and freedom from ordinary annoyances, the task would be one after my own heart. It is possible I should make discoveries on the upper shelves, not in the way of "top-shelf literature," as the old euphemism has it, but of books compiled by scholars and handled by artists; that I should encounter rare volumes in the store-rooms that should be in the Soane collection; perchance I might unroll rendered drawings and designs calculated to make my friends week envious tears.

* * * *

We are all aware of the treasures of the Institute, held in mortmain for the benefit of architects. The pity of it is that so few have opportunity to enjoy what is theirs by right: that the stored wealth is perforce neglected by those for whom it has been collected. Let it not be for a single moment thought that I am levelling an attack against the fortress in Conduit Street. As one of the garrison I am sworn to defend its ancient rights and privileges, but I cannot in a moment get out of my imagination the "desert" aspect of the labyrinth of rooms and passages when I looked in to enlarge my thoughts and gain ideas likely to be of use to me in these columns. After years of absence under rigorous discipline, I entered the Institute the other day and took up a position in it very convenient for seeing without being observed myself. There was no need for any such precaution, for, except for the genial officials flitting hither and thither, the place was practically deserted. It seemed as though all the members were still away in France or Mesopotamia. My expectations of a treat in store had been somewhat lessened by the dowdy appearance of the façade—after four years of enforced neglect, all façades are dowdy. The office on my right was a scene of some activity, for packages of students' drawings were being stacked ready for examination, and hence the staff was busily engaged. Unobserved I gained access to the Council Room. There were the portraits of the Adam Brothers, Soane, and other worthies, peeping out obscurely from their frames. Even the picture, framed in heavy mouldings, over the mantelpiece failed to attract me. In the lower galleries an examination was in progress, and for that reason I regretted the bare walls. While in this state of suspense, waiting for something to happen, expecting to witness the entrance of the ghostly shades of past architects in all the majesty of distress, to my unspeakable astonishment a stranger came up to me and said, "Excuse me, sir, I am a member of the public seeking advice on a question of taste. Is this the Royal Institute of British Architects?" My first thought was to reply, "It used to be"; but my surprise at meeting a man from the street in such surroundings compelled me to refrain from explanations, and after politely directing the enquirer to the office I made my way upstairs.

* * * *

In brighter days it was my wont to enter the Institute with a swing, to raise my hat and make a sweeping bow to the busts of Jones and Wren on the staircase, to ascend to the library without delay and sign the visitors' book in the names of Vignola, Wren, Chambers, and others. On the occasion of my visit the other day all levity was banished. The staircase landing, which should be kept free from obstruction, the first axiom in

planning, was crowded. A Chinese pavilion stared at me from the depths of a glass case, bullied into silence by the plast model of a hypothetical bridge. Three or four miniature wooden models of the Orders, perhaps copies of those belonging to Wren's office, had retired to a dark corner, where they stood in doubt of every visitor. There were a few pictures left on the dingy walls of the staircase; the carpet needed renovation; and the whole effect seemed to justify the troubled smile of Sir Charles Barry, who looked around with vengeance. Sadly I made my way to the Library and scanned the visitors' book. Although it was late in the afternoon, entries had been made; so, in order to improve the attendance and create a diversion, I obtained Redgrave's Dictionary and entered a goodly list of long-forgotten architects. May the Literature Committee forgive me!

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In the above summary it has been my endeavour to sketch lightly and lovingly the forlorn and forsaken aspect of the Institute as it must appear to those who hold its interests at heart. After so many years of war they could expect nothing better. At present the Institute is a seedy concern, because it has passed through many trying times. It has sheltered refugees, housed the needy, provided for the poor, and aided other houses. It is a small house, as London establishments go, but it is famous one—noted, moreover, for its hospitable gathering, with a reputation to maintain, and it is essential that it should be renovated without delay. That, the astute reader will perceive, is my sole reason for calling attention to the matter.

* * * *

This learned body of professional men has done much in the past to raise the status of building, not the least of its efforts being to advocate an increased reward for its members on account of their value to the State. From a study of its motives I have come to the resolution that its council lacks initiative both in gauging the peculiar situation and conditions of the times, and in the direction of active propaganda. In former days architects were dependent on the whim of aristocratic patronage leavened with a certain tolerance from ecclesiastical circles. The railway boom gave the old architects a certain scope. The abnormal prosperity of the Victorian regime played into their hands; even the years immediately preceding the war lulled them into a sense of fancied security. All this is now changed. The profession to-day is faced with new demands, a democratic and sweeping nature. The man in the street clamours for houses; great industries call for adequate buildings, the development and reconstruction of cities need specialised knowledge. In a word, a new era is opening for the architect, with manifold advantages providing he be man enough to rise above the mundane groove. If the Institute is to be representative of the profession it is essential that its position be strengthened forthwith. Why has it been necessary in the past for such bodies as the London Society, the Civic Art Association, the Society for the Protection of Ancient Buildings and a dozen other equally energetic bodies to begin activities apart from Conduit Street? The Institute as a house is small but that fact does not militate against its being the focal point of combined activities. Under the new scheme of construction should be possible to extend some form of membership to those who belong to such kindred societies. The galleries should be opened to the public, monthly or even weekly exhibitions of designs favouring topical subjects should be held, and invitations extended to all and sundry to take an interest in public procedure. The Institute should be truly representative of the whole body politic of architecture. What inducement is there for the provincial man to come to the London house; there is nothing beyond the books and drawings to attract him? As regards these, it is not possible to obtain access to the library after six o'clock. When the man from the provinces calls on the Institute he is deprived from using it as a club. He rarely meets London members there, except they be personal friends who meet him by appointment. The lectures and papers recently given lack the attraction of those delivered in the old days, while the transactions published in the "R.I.B.A. Journal" have fallen to the level of pedestrian lucubrations.

* * * *

But I must turn my pen to what is of greater regard to us than the compilation of a species of jeremiad. The Royal Institution of British Architects is capable of rising high above the present depression. The members are men of ability beset by the chaotic conditions of the day. To them will fall the burdens of the future, the hard thinking, the alleviation of some portion of the national difficulties, particularly the problems of housing and health, as well as unswerving devotion to the cause of sanity in expression. They will also be called upon to pay the taxes.

AERO.



PROPOSED NEW CHURCH OF ST. MARY, KETTERING. GOTCH AND SAUNDERS, ARCHITECTS.



FONTAINE DE L'ABBAYE, RUE CHILDEBERT, PARIS (PERIOD OF LOUIS XV.).

History and Properties of Paint*

THE use of paint for decorative and for preservative purposes dates far back into history; but in the brief space at our disposal we will only consider some of the more important types of modern paints and their most important properties.

Paint is described, in a general way, as the mixture of finely divided particles of solid matter called the "pigment" in a liquid called the "vehicle." Asphalt paint is merely solid asphaltum dissolved in benzine or some other vehicle.

The pigment functions to hide the surface over which the paint is applied, to resist the action of weather and wear, and to give colour. The selection of the most suitable pigment, or combination of pigments, depends very largely upon the intended use and importance of these functions under the conditions for which the paint is intended to be used.

The vehicle functions as the carrying and cementing body, which dries and binds together the solid particles of pigment in much the same way that Portland cement and water unite to form concrete.

The types of paints best known are three, differentiated by the vehicles used to carry and cement their pigments. The most important are the oil paints; but the enamel paints are used quite extensively, and cold water paints are daily becoming more popular for interior walls.

Asphalt paint is really a varnish. The varnishes differ from paints in that they do not ordinarily have a pigment, though occasionally a little is added to give colour, and we then approach what is known as "enamel paint."

The oil paints consist of pigment ground in a paint mill with a vehicle, to which is added a small proportion of Japan drier to cause a fairly rapid solidification when the paint is applied.

Linseed oil, which is pressed from flaxseed, is the best known vehicle used in the oil paints. Until recent years it was emulsified for all the better paints of this type, but it has the defect that a film of it is readily penetrated by water.

Other vehicles, as substitutes and improvements, were diligently sought, because of this unfortunate non-waterproof property of linseed oil. Among others, fish oil, Soya bean oil, and corn oil have been carefully tested and successfully used under certain conditions, but the greatest advance has been made by using China wood oil.

China wood oil, when properly manufactured, is very resistant to water, and it is largely employed at the present time in the manufacture of both paints and varnishes.

The enamel paints consist of pigment ground in a vehicle of turpentine which consists ordinarily of gum or resin, oil and turpentine. The evaporation of the turpentine leaves the gum and oil as a strong cementing medium for the pigment. Some of these enamels are very serviceable and resistant to weather, and the coating dries with an excellent gloss.

Cold water paints consist of pigment combined with gum, turpentine, etc., that dissolves in water to form the vehicle at the time of application. The evaporation of the water leaves the pigment to serve as the cementing medium for the pigment. Some of these paints of this type have very fair weather resistance.

White lead pigment is one of the oldest and best known. It was originally made from pieces of metallic lead called "plates," that were corroded to form the white powder termed "basic carbonate," and known as "white lead." This process was largely used at the present time, though other methods have been adopted to shorten the period required for manufacture and to improve the product. White lead, as first produced, is dried, and powdered before being sent to the paint

mill. White lead paint, when the pigment is properly ground with a vehicle of good grade, has very great covering and adhesion qualities. Unfortunately it also has certain disadvantages. It is very poisonous, and on exposure to weather it has the property of "chalking." When one's hand is rubbed over a wall which has been painted with it for a year or more, the wall becomes coated with a white powder.

The chemical action between the white lead and the oil causes a change in a white lead paint film; and this action is so marked that in the course of a few years the house which has been covered with an excellent quality of white lead paint may be found poorly protected, especially if it is exposed to salt sea

air. Zinc oxide pigment is another which is well and favourably known. Owing to its non-poisonous properties it is more serviceable than white lead for interior work. This pigment

used alone is also unsatisfactory, as it produces a brittle coating that is liable to crack.

Other pigments commonly used are red oxide of iron, ochre, sienna, ultramarine, Prussian blue, chrome yellow, lamp black, and many besides too numerous to mention.

Co-operation is as effective in promoting efficiency with pigments as with people, and by far the best results have been obtained with paints in which suitable pigments have been properly combined.

Little was known about the reactions between pigments and vehicles, or the reasons for good or bad service of paints made from given materials, until comparatively recent times. Certain bad combinations were shunned from sad experience. It was learned, for instance, that white lead paint mixed with ultramarine blue will darken, owing to the formation of black sulphide of lead, and that a sign coated with white lead paint will sometimes change from white to yellow within an hour if exposed to the sulphur fumes from a locomotive.

The study of paints was given great impetus about the year 1890 through the published investigations of Dr. Charles B. Dudley, for many years the able, widely known and respected chemist of the Pennsylvania Railroad. In his studies, among other things, the properties of paint materials were systematically investigated, and what was learned brought about radical changes in the composition and manufacture of paints.

The Pennsylvania Railroad gained much valuable information as the result of Dr. Dudley's work. It was clearly realised, for example, that the effectiveness of a paint did not by any means depend upon the cost per gallon or pound. As a matter of fact, it was proven that some of the most durable paints could be obtained at a minimum cost.

Other railroads were not slow to follow the lead of the Pennsylvania, one of the first to start on this work being the Philadelphia and Reading, now known as the Reading Railway. The results of some of these investigations were presented by the writer before the Franklin Institute, and elsewhere.

The size and form of the particles of the pigment were shown to have a great influence upon the life of a paint coating, though this subject had not previously received any attention. A brief description of a case that clearly illustrates this point may be of interest:

Two bridge paints had been used upon the lines of the Reading for a period of about ten years. These paints were made by the same manufacturer, and contained almost the same proportions of the same materials. Though they were exposed side by side and under like conditions all along the road, one of them became known for its good service, and the other for very poor service. The life of one was twice that of the other.

The difference between the service rendered by these paints was so marked that we determined to get at the real causes, so as to bring the quality of all our paint deliveries to the same high standard of durability represented by the better paint.

The discovery that the main difference between the two paints was in the relative size of the particles of the pigments resulted from this investigation. In the long-lived paint these particles ranged from two to ten ten-thousandths of an inch in diameter, with comparatively few of the maximum sizes, while in the short-lived paint the diameters ranged from two to one hundred and eighty ten-thousandths of an inch. The average diameter, as nearly as we could estimate, of the particles of the pigment of the satisfactory paint was four ten-thousandths of an inch, against eighty ten-thousandths of an inch for the unsatisfactory paint; and, as the volumes of spheres are to one another as the cubes of their diameters, it follows that the average particle of the pigment of the good paint was eight thousand times smaller in volume than that of the bad.

The composition of these two paints was about 25 per cent. oxide of iron combined with inert matter, such as clay and gypsum, as a filler, ground in pure linseed oil, with a small proportion of Japan drier, as a vehicle. The details of the investigation may be found in the journal of the Franklin Institute for July, 1904.

The reason why this difference in the size of the particles of pigment makes so marked a showing in the service of the two paints is that where the particles are coarse, relatively large oil spaces surround them; and as linseed oil is by no means waterproof, as we have mentioned, the effect of the weather is soon noticed in such paints.

Surface tension also operates in favour of the paint having the finer-particled pigment, on the same principle that causes fine sand, when wet, to hold together, where coarse sand or gravel will not.

Tests demonstrated that some of the most durable paints were composed of the simplest and least expensive of pigments,

*Lecture delivered by Robert Job, vice-president Milton Hersey Company, at the Extension Course on Industrial Chemistry at McGill University.

and created a good deal of interest because the findings ran counter to the preconceived ideas of many who had assumed that in order to be really good and give long service a paint must be composed of one of the more expensive pigments such as white lead, and that those which contained the so-called "inert materials" were to be looked upon as "doped" products.

Because of misbranding and wholesale and indiscriminate adulteration, the manufacturers were, in some cases, to blame for this. For example, we have seen a supposedly oil paint that contained 30 per cent. of water. Another paint labelled "pure white lead" contained no white lead. Many other cases could be cited, and it is small wonder that such abuses led to a public outcry and legislation that was sometimes carried too far.

It became necessary, because of these conditions, to determine the truths about the properties and characteristics of the different paint materials, and the work was finally undertaken by the Scientific Section of the Paint Manufacturers' Association of the United States.

A fence was built at Atlantic City, and several hundred panels were coated with paints of different formulæ in order to determine the value under exposure to the weather at the seashore of the more important materials used as pigments, and also to show the most durable combinations of the various pigments under such conditions. Exposures were made on both iron and steel panels as well; and, subsequently test fences were erected in other parts of the country in order to get varying climatic conditions.

The tests were made under the supervision of the American Society of Testing Materials, and a vast fund of information regarding the service value of various compositions and combinations was obtained. Materials that many considered as adulterants not long ago are now known to have a definite value in the design of high grade paints.

Misrepresentation still exists under the stress of competition, but the general plane of the paint industry is distinctly better, for the simple reason that the principles of manufacture, the relation between cause and effect as applied to paints, and the properties of paint materials, are all far more thoroughly understood than was the case even at the beginning of the twentieth century.

It will be clear from what has now been said that in order to be serviceable, a paint must be composed of a pigment that is

of a character well adapted to the conditions under which it is to be used, that this material must be in the most effective physical condition, and must be carried in a vehicle which will form an effective bond between its particles and at the same time be as nearly weatherproof as possible.

The spreading quality is a factor that should be very fully borne in mind when purchasing paints. That having the pigment composed of the most finely divided particles, other things being equal, will spread farthest.

Specific gravity is another important factor, and should be studied accurately by the purchasing agent who is buying by the pound. The paint of the least specific gravity will be the greatest in bulk; and it is bulk, not weight, that counts in determining the spreading capacity of paints.

The labour cost of applying the paint is usually far greater than the cost of the paint itself; and it is important to remember this as a special incentive for the purchasing of the most durable paint for the purpose.

Specifications for various types of paints were the natural outcome of all the foregoing investigations and experiments with paints and paint materials. Such specifications have been drawn by the writer and others to cover paints for use under many different conditions, and these can be filled by any manufacturer who is willing to give care and attention to the work. Some of them, in fact, now carry these preparations in regular stock.

By purchasing wisely under carefully drawn specifications, real competitive prices that represent the true market value of the paint materials plus a reasonable allowance for the cost of the labour and profits of manufacture can be secured.

Marked economies have been effected by some of the principal railroads and by many smaller users of paints, through lowered costs and increased service, as a result of working under these lines.

Large purchasers know they cannot afford to do other than buy according to specifications specially drawn to cover the needs of the service. It would be much to the advantage of many of the smaller purchasers who use quantities that would warrant the small expense connected therewith, if they would do likewise.

Final testing is, of course, absolutely necessary, for it is useless to buy according to specifications, or even on promise, unless the paints actually delivered are tested to determine whether they are as specified or represented.

National Housing Suggestions

ALTHOUGH wall-coverings known as "rough-cast" and "pebble-dash" are much favoured by cottage builders, these materials are seldom used satisfactorily. Rough-cast is thrown on and left in lumps, and through the lumps being too large and the surface too irregular a very vulgar result is produced. In Devon, where cob and other walls are treated with roughcast, the sand and fine shingle are passed through a screen, so as to eliminate all particles of more than $\frac{1}{8}$ in. diameter. The rough-cast is thrown on the wall surface very evenly and with considerable skill, so that the only variation of surface is that produced by the particles forming

the aggregate. The result is most satisfactory; there are no ugly lumps, yet the surface possesses a pleasing texture. Pebble-dash, which consists of sprinkling a mortared surface with small pebbles, is also very ugly. Where it is necessary to cover a concrete or brick wall with some form of plaster it will be found better to do this in the same way as walls are covered in Italy and elsewhere, i.e., with a coating of plaster put on with a float, not with a trowel, and without any effort being made to do away with any natural waviness in the surface. Examples of rough-cast are shown in Fig. 19, and plaster such as is suggested in Fig. 20.



Fig. 19—Rough-cast.



Fig. 20—Plaster.

Photos: Nathaniel Lloyd, O.B.E.



CE, PARIS. J. L. DUC, ARCHITECT.

VESTIBULE DE HARLAY, PALA



An Analysis of Pre-War and Post-War Prices for Building Work*

By LIEUT.-COL. T. E. COLEMAN, R.E.S.

(Continued from No. 1283, page 178.)

Rates of Wages.

The various advances in hourly rates of work which have occurred from time to time in the London District since 1912 are indicated in the following table, —

Average Rates of Wages paid per hour in the Building Trades in the London District.

TRADE.	1912.	1914.	1916.	1917.	1918.		1919.	
	August.	August.	July.	April.	October.	January.	August.	Feb. June
	d.	d.	d.	d.	d.	Hourly rates plus 12½% war bonus.	Hourly rates plus 12½% war bonus.	Consolidated hourly rate.
Bricklayer	10½	11½	12½	13½	15½	15½	17½	21
Carpenter	10½	11½	12½	13½	15½	15½	17½	21
Excavator or navvy	7½	8½	9½	10½	12½	12½	14½	17½
Joiner	10½	11½	12½	13½	15½	15½	17½	21
Machinist	11	12	13	14½	16	18	18½	23
Labourer, general	7	8	9	10	11½	13	13½	17
Mason	10½	11½	12½	13½	15½	15½	17½	21
Plasterer	11½	12½	13½	14½	16	18	17½	21½
Plumber	8½	9	10	11	12½	14½	14½	18
Plumber's mate	11	11½	12½	13½	15½	17½	17	21
Scaffolder or timberman	11	12	13	14	15½	17½	17½	21½
Slater or tiler	10½	11½	12½	13½	15½	17½	17	21
Smith	10	11	12	13	14½	16	16	19½
Engine driver	7½	8½	9½	10½	12½	13½	14	18
Boiler attendant	7	8	9	10	11½	13½	13½	17
Average rates	108½	185½	203½	221½	253	285	321½	354½
	9½	10½	11½	12½	14	16	18	19½

will be seen by reference to the foregoing statement that no increase in the standard rates of wages current in August, 1914, was made until nearly two years after war was declared. In July, 1916, an advance of 1d. per hour was then given to building trades.

On April 28, 1917, an advance of 1d. per hour was authorised and paid to all workmen in the building trades employed by the Ministry of Munitions. On June 9, 1917, this advance was also obtained by workmen employed in ordinary building work. On October 20, 1917, a further advance of ½d. per hour was granted to all workmen in the building trades under the Ministry of Munitions. This increase was afterwards paid to those employed on ordinary building work, as from January 19, 1918.

On February 21, 1918, the Committee of Production, acting under the Statutory Powers and Orders made by the Minister of Munitions, granted a bonus of 12½ per cent. advance on the hourly rates of building-trade operatives in the employment of Government Departments or in the employment of Government contractors. Workmen who were piece-workers or on a premium bonus system, or any other system of time and piece, or any other form of payment by results, a bonus of 7½ per cent. advance on their earnings was granted. In both cases it was specifically stated that any allowances, such as travelling time or walking money, lodging money, overtime working allowances, etc., should be excluded from the bonus provided by this award. This bonus commenced as from January 5, 1918.

This war bonus or increase of 12½ per cent. on the current hourly rates of wages was afterwards paid to all building trade operatives employed in ordinary work in

the London district as from May 11, 1918. On August 3, 1918, a further advance of 1½d. per hour plus 12½ per cent. war bonus was awarded by the Committee of Production to all building operatives employed on munition work, and was made

4 p.m. For Sundays, Christmas Day, Good Friday, and Bank Holidays double time is paid.

For night gangs the workmen are paid 1d. per hour over and above the ordinary rates of wages, but if the shifts exceed nine hours the overtime scale is paid for the extra time worked. From Saturday midnight to Sunday midnight twice the ordinary rate is allowed. Night workers are allowed one and a half hours for meals.

For work in water or liquid mud one and a third times the ordinary rate is allowed. Work interrupted by tides is paid at one and half times the ordinary rate. For work in water or liquid mud and interrupted by tides double time is allowed. Water-boots or waders are provided for the workmen.

The labour rates for the London district apply to the area embraced within a radius of twelve miles from Charing Cross. When the workmen are sent a distance exceeding six miles from the workshops or ordinary job they receive an allowance of 6d. per day, together with travelling expenses, time occupied in travelling, and lodging money.

The following table shows the percentages of increase in rates of wages in the building trades which have taken place at various dates during the war period, as compared with the labour rates current in August, 1914. An interesting comparison is thus obtained, not only of the ratio of increase from time to time in each trade but also between the different trades themselves.

An examination of the results tabulated

List of Average Rates of Wages paid in the Building Trades in the London District on August 3, 1914, together with the percentages of increase up to June 28, 1919.

TRADE.	Hourly rates in August 1914.	Percentage of increase over rates of wages current in August, 1914.									
		1916.	1917.	1918.		1919.					
	d.	%	%	%	%	%	%	%	%	%	%
Bricklayer	11½	8.7	17.4	32.6	50.0	66.2	82.6	82.6	82.6	82.6	82.6
Carpenter	11½	8.7	17.4	32.6	50.0	66.2	82.6	82.6	82.6	82.6	82.6
Excavator or navvy	8½	11.7	23.5	44.1	61.7	85.3	105.8	105.8	105.8	105.8	105.8
Joiner	11½	8.7	17.4	32.6	50.0	66.2	82.6	82.6	82.6	82.6	82.6
Ditto machinist	12	8.3	18.7	33.3	50.0	75.0	91.6	91.6	91.6	91.6	91.6
Labourer, general	8	12.5	25.0	46.9	65.6	90.6	112.5	112.5	112.5	112.5	112.5
Mason	11½	8.7	17.4	32.6	50.0	66.2	82.6	82.6	82.6	82.6	82.6
Ditto fixer	12½	8.2	16.3	30.6	46.9	63.3	77.5	77.5	77.5	77.5	77.5
Painter	9	11.1	22.2	41.7	58.3	80.5	100.0	100.0	100.0	100.0	100.0
Plasterer	11½	8.7	17.4	32.6	50.0	66.2	82.6	82.6	82.6	82.6	82.6
Plumber	12	8.3	16.7	31.2	47.9	64.6	79.2	79.2	79.2	79.2	79.2
Ditto mate	8	12.5	25.0	46.9	65.6	90.6	112.5	112.5	112.5	112.5	112.5
Scaffolder or timberman	11½	11.7	23.5	44.1	61.7	85.3	105.8	105.8	105.8	105.8	105.8
Slater or tiler	8½	8.7	17.4	32.6	50.0	66.2	82.6	82.6	82.6	82.6	82.6
Smith	10½	9.5	19.0	35.7	52.4	71.4	85.7	85.7	85.7	85.7	85.7
Fitter	11	9.1	18.2	34.1	50.0	68.2	81.8	81.8	81.8	81.8	81.8
Engine drivers	8½	11.7	23.5	44.1	61.7	85.3	111.7	111.7	111.7	111.7	111.7
Boiler attendants	8	12.5	25.0	46.9	65.6	90.6	112.5	112.5	112.5	112.5	112.5
Average increase	—	10.0	20.0	37.5	54.8	74.9	92.9	94.1	94.1	94.1	94.1

rates were then consolidated, so as to include all the percentages and allowances previously awarded or agreed to on behalf of the building trade operatives.

In May, 1919, the painters received an additional rise of 2d. per hour, making a total of 1s. 8d. per hour for the workmen employed in that trade.

Overtime is paid at the rate of one and a quarter times the ordinary hourly rate from leaving off time to 8 p.m. From 8 p.m. to 10 p.m. one and a half times the ordinary rate is allowed, and from 10 p.m. double time. On Saturdays the overtime scale is one and a quarter times the ordinary rate from leaving off time (noon) to 4 p.m., and twice the ordinary rate after

above shows that the highest percentage of increase during the war period has been obtained by the painters, with an increase of 122 per cent., the rate being raised from 9d. to 1s. 8d. per hour. Next come the comparatively unskilled sections of labour in the building trades, such as general labourers, plumbers' mates or labourers, and boiler attendants; the rate for these artisans being raised from 8d. to 1s. 5d. per hour, or a net increase of 112.5 per cent.

The rate of wages for the majority of skilled trades, such as bricklayers, carpenters, joiners, masons, plasterers, slaters, etc., has been advanced from 11½d. to 1s. 9d. per hour within the same

period, or a net increase of 82.6 per cent. Other branches of building labour have received corresponding increases. Taking all the trades mentioned in the foregoing table, an average increase of 94 per cent. has been obtained, the average pre-war rate of 10½d. per hour being now raised to 1s. 8d. per hour.

As previously observed, the first rise in wages—amounting to an average of 10 per cent.—did not occur until July, 1916, or two years after the commencement of the war. Afterwards the advances became greater and more frequent. During 1917 an additional average rise of 27½ per cent. was obtained. In 1918 a further average advance of 37½ per cent. was paid, making a total average increase to that date of 75 per cent. In February, 1919, an additional increase of 18 per cent. was obtained, whilst in May, 1919, the painters received a further rise of 2d. per hour, making an average increase for all trades of 19 per cent. for the first six months of 1919.

(To be continued.)

HINTS ON PAINTING RADIATORS.

One of the best finishes for radiators, which are always more or less ugly, is to paint them with white enamel on a ground of lithopone or zinc oxide, taking care, of course, to clean the surface of the iron thoroughly before applying any paint. It is necessary, however, to use an enamel which will withstand the high heat, and a baking enamel is the best thing to use for the purpose. If something less conspicuous is desired, a good bronze paint can be used, but here again the medium must be heat-resisting. Various bronzes can be had without difficulty; gold, light gold, green, red and other colours. They may be mixed together if desired. A good plan is to finish off the bronze with a very light coat of some transparent colour used as a glaze. For example, Vandyke brown thinned with turpentine can be used over copper bronze, or cobalt blue over aluminium bronze, burnt umber over gold bronze, and dark chrome-green over copper bronze, and other variations. Still another way is to produce what, for the want of a better term, may be called an ivory effect by painting the ground very light yellow approaching white, then putting on Vandyke brown very thinly and wiping off part of the latter on the highest portion of the ornament.—A. SEYMOUR JENNINGS.

SELECT COMMITTEE ON LAND VALUES.

At the first meeting of the Land Values Select Committee of the House of Commons on August 6 Sir T. P. Whittaker (C.L., Spen Valley) was appointed chairman. After deliberation in private the Committee decided that it should not commence the taking of evidence until after the Parliamentary recess. The task entrusted by the Government to the Committee is that of reopening the subject of land values and their taxation, the terms of reference being: "To enquire into the present position of the duties imposed by Part I. of the Finance Act, 1909-10; to make recommendations in regard to their retention, alteration, or repeal, and in regard to such legislative or administrative measures as may be necessary in order to give effect thereto; to enquire into the basis and present position of the valuations of land prescribed by Part I. of the

Finance Act, 1909-10, and to make recommendations thereon, regard being had to the desirability of State valuation of land being available for public purposes."

The Committee consists of Major Barnes (C.L., Newcastle, E.); Major Courthope (C.U., Rye); Mr. Gritten (Ind., The Hartlepoons); Mr. Hartshorn (Lab., Ogmore); Major Hayward (C.L., Seaham); Mr. Kidd (C.U., Linlithgow); Mr. Pretyma (C.U., Chelmsford); Lieut.-Colonel Roys (C.U., Grantham); Mr. Raffan (L., Leigh); Mr. Parkinson (C.U., Blackpool); Sir W. W. Rutherford (C.U., Edgehill); Mr. A. Shaw (C.L., Kilmarnock); Lieut.-Colonel Weigall (C.U., Horncastle), and Major Wood (C.U., Ripon).

LOANS FOR HOUSING.

Mr. Stanley Baldwin, Financial Secretary to the Treasury, addressed the Parliamentary Housing Committee on August 6 on the financial aspect of the Government housing scheme. The State, he said, had come to the rescue in the most generous manner, having regard especially to the financial position of the country. He was able, therefore, to appeal confidently to the local authorities to shoulder any proper obligations, particularly in relation to the raising of loans which were rendered necessary by the scheme. Local authorities of £200,000 ratable value were permitted to raise their loans from the Public Works Loan Commissioners, and some of the larger authorities would, he ventured to say, have no difficulty in borrowing for housing purposes. All authorities should certainly avoid short-term loans. He suggested that it was important that borrowing should be done on the same terms all over the country, and for that purpose he advocated that a representative financial central committee, which would be readily accessible, should be set up to make recommendations and give advice to the local authorities. As to getting the money, his personal view was that large sums could be raised from individual investors.

Sir Kingsley Wood said the total number of house plans approved to date was 13,054. Inland Revenue valuers had rendered considerable assistance in relation to reducing the price of land for housing schemes. In 215 cases the price originally asked was £577,000, whilst the price paid was £436,700, a saving of £140,300. Housing loans had been sanctioned to the amount of £3,566,729. As an instance of building by private enterprise he cited the case at Derby of a housing company who were this week themselves commencing to erect 114 houses on their own account by arrangement with the Town Council, who would take them over on completion under an enabling provision of the new Housing Act.

"DAILY MAIL" IDEAL HOMES EXHIBITION.

The "Daily Mail" Ideal Homes Exhibition will be held at Olympia from February 4 to February 25, 1920. In consequence of the greatly increased importance of the housing question, the exhibition has been extended to three weeks instead of the usual two. Workers' ideal cottages, according to the designs which won the £500 prizes in the recent "Daily Mail" Architects' Competition, will be shown.

Amongst many other features of interest, details of which will be published

later, great prominence on this occasion will be given to labour saving in the home. An important effort is to be made to realise a home in which domestic work is reduced to a minimum. Both the public and architects will be invited to co-operate in this effort at an early date. For the benefit of housing committees of local authorities, public utility societies, borough engineers, and others concerned in the problem of housing the world, three books of the best designs entered in the recent "Daily Mail" Ideal Homes Architects' competition will be published on the 25th inst. In addition, will contain the names and addresses of all the architects whose designs attained a sufficient standard of merit to warrant their inclusion and also the exact location for which these "mentioned" architectural plans were suitable.

LONDON EXHIBITION OF BEAUTIFUL ARTS DRAWINGS.

An exhibition of very great interest to the architectural profession was held last week in the galleries of the Society of Architects, when a collection of drawings by students of the Ecole des Beaux-Arts was displayed on the walls, grouped according to the curriculum study in force in Paris.

Much divergence of view exists in the profession generally on the question as to whether the extraordinarily severe method of training architects in France could be adopted in this country. It is a reasonable prospect of success, it is held by many that until architecture in England receives the same encouragement as it does in France our present methods must suffice. No one, however, on looking round the walls and examining the remarkable examples of imagination as well as practical work presented, could fail to be impressed by its extraordinary high level of attainment, nor, if he were an architect, could he well be wishing that our own students of architecture were in a position to produce similar studies.

As a matter of fact, a beginning has been made, and the Society of Architects deserve the highest commendation for having established, on its own premises, an atelier under M. Paul Chares, where students are taught, as far as can be done, on the French system. Whether this transplanting of a foreign tradition will commend itself to the rising generation of English architects or not is not venture to prophesy.

Not only do the exhibits demonstrate the attention paid by French students to pure draughtsmanship, in which the use of sciagraphy, colour, and the maximum indication of sculpture and ornament figure so prominently, but they also show the fertility of conception and the creative wealth which result from the systematic exercise of the mind in such matters of planning and composition.

The studies on view covered a wide field of design, and included grand projects of civic character, monumental public and domestic buildings, decorative and even a mosque.

Conspicuously hung on the far wall of the second gallery was a magnificent sepia drawing by M. Chares of a national monument, of which the structure was represented to scale, the surrounding approaches, bastions, statuary, and avenues were shown in perspective.

We hope to publish in our next issue one of the more typical designs.



BANK PREMISES IN FLEET STREET, LONDON. JOHN GIBSON, F.R.I.B.A., ARCHITECT.

The Commercial Woods of the Argentine Republic and Chile

Argentina and Chile are entirely different both climatically and geologically, and have a very strong line of demarcation in the chain of the Cordillera, which separates them. Whilst in Chile the timber-bearing country lies in the colder regions south of Valparaíso, in the Argentine it lies in the great and only partially explored district in the extreme north, known as the Chaco. Both Argentine and Chilean woods properly seasoned are difficult to obtain, especially now, when owing to the scarcity of imported timber they are so much in demand. They are subject to movement due to changes of seasons and are difficult to find perfect in large scantlings. A quite common defect is that of being rotten in the heart, and even good timber is often quite spoilt after having been bored by insects. The prevailing colour of the woods really native to the country is usually of a reddish brown tint with a fine grain and a special figure. The trees are evergreen, with the exception of those which have a European origin. The exploitation of timber is in the hands of several companies, the most important being "La Forestal" in the Argentine and the "La Compañía de Buques y Maderas" in Chile; two companies of British origin. The varieties mentioned below are those which have commercial value. There are many others, but being obtained in so small a quantity or of so small a scantling they either never come on to the timber market or are used in small local industries apart from building. It is a matter of regret that this industry is not developed on more scientific and business-like lines, so that the market could be kept supplied with a sufficient quantity of good seasoned timber.

Argentine Republic.

Laurel.—A pale yellow wood, tough and strong, not in great demand, and used principally for making cheap joinery and flooring, cases, etc.

Alamo (poplar).—A soft, light white wood, usually full of small knots and very

brittle; used for light cases and cheap joinery, toys, etc.

Cedro (cedar).—A red wood similar to mahogany, but with an open reversed grain. This is an excellent wood for general joinery. It takes a good polish, but has to be prepared for painting on account of its open grain.

Pitiribí.—A dark brown wood which splinters freely. It is similar to walnut in appearance, and is used for cupboards, flooring, and general joinery.

Mora.—A lemon yellow coloured wood, which is similar to satinwood, and which is used for bedroom furniture. It takes a good polish.

Algarrobo (locust) is dark red in colour, and is hard and heavy. Algarrobo is obtained in small pieces only, and is employed for door frames, cills, lintels, etc.

Incienso.—A brown wood with a sweet smell, is heavy, and is used for door frames principally.

Ivivaró, Viripitá, and Lapacho are all similar woods, all hard and knotty, and vary in shades of browns. They are obtained in small pieces only and used for door frames, etc.

Curupay.—Yellowish brown in colour, with green streaks. Curupay is obtained in longer lengths than most of these woods, and is employed for joists, veranda posts, fencing, etc.

Urunday, used for furniture, is of dark brown colour, with darker markings of a good figure.

Quebracho.—The most valuable wood in the Argentine. It is this tree that supplies the extract for tanning and the best fuel in a country devoid of coal deposits. This wood is very hard, sinks in water, and cannot be brought to a fine finish. It is therefore principally used for fencing, piling, railway sleepers, etc. In colour it is a deep red.

Quina.—A dark red wood, no special markings, and not much in demand.

Chile.

Cedro.—The same as that of the Argentine, but not in such large sizes or quantity.

Raulí.—A bright red wood which has a fine grain and which takes a good polish. It is much used for joinery, floorboards, and cheap furniture, is easily worked and is obtained in large scantlings.

Lingue.—An excellent wood, light brown in colour, used for good furniture and the better class joinery. Usually it has a good figure and can be stained and polished, and is much used instead of mahogany.

Roble Pellin is used only for the framework and floors of houses in a country subject to earth tremors, and where most of the houses are built of wood. The wood cannot be properly seasoned, and after having been fixed many years has been found to be wet inside. The colour varies from red to yellow, the former being the best variety. This wood is very fibrous and strong.

Laurel.—A similar wood to that found in the Argentine, and much used for cheap joinery, door panels, weatherboarding of houses, and floorboarding.

Alamo.—This also is a similar class of wood to that in the Argentine, and is much used for ceilings on account of the earth tremors.

In addition to the above there are, of course, many varieties not indigenous, such as eucalyptus, plane, maple, oaks, acacias, willows, palms of many varieties, etc.

Imported pine is much in demand, and the classes obtainable are as follows:—

Argentine.

Pitch-pine, used for floorboards, joists, roofing, and general carpentry.

White pine, Nos. 5, 7, and 8, used for joinery work generally.

Brazil pine, for rough cheap carpentry and joinery.

Chile.

Oregon pine, for all classes of carpentry and joinery.

There is a continuous call for these timbers, and in consequence, owing to the shortness of the supply the price has trebled itself since 1914.

JAS. WESTBROOK FARMER, F.R.I.B.A.

Oil Fuel in Industry

In view of the keen interest which is everywhere being taken in the substitution of oil for coal, it will be useful to consider the various methods of employing oil for steam-raising and the way in which it differs essentially from the use of coal.

It is a characteristic of all fuels that they burn only at the surface. After a lump of coal has been burning for some time it will be found, on breaking it, that the centre of the lump is unaltered, the combustion taking place only on the outside where there is a supply of oxygen. Therefore, the rapidity and completeness of combustion will be regulated to a certain extent by the physical condition of the fuel. The more the fuel can be broken up the more its surface will be increased, and the more rapid will be the combustion.

This is the underlying principle of all methods of burning oil. The oil is broken up as completely as possible, and a fine spray thus formed, intimately mixed with the necessary air, is injected into the furnace, where it burns with great rapidity, producing no smoke and leaving no ash. The more completely the breaking up of the oil is accomplished the better

are the results obtained, and a great deal of ingenuity has been expended from time to time on the apparatus necessary to atomise the oil satisfactorily. At the present time there are available several excellent oil burners in which the disintegration is so complete that the oil enters the furnace in the form of a fine mist, this being the ideal condition to secure best results.

The various systems of oil-burners employed may be classified under three heads: (1) Atomisation by compressed air, (2) atomisation by steam under pressure, (3) atomisation by purely mechanical means.

Generally speaking, systems 1 and 2 are merely modifications of each other, and most burners designed to use steam will work equally well with air. The oil itself is not under any pressure except that due to the height of the feed tank above the burner; the steam or air being forced through the burner under a pressure varying in different types from as low as 4 lb. up to 50 lb. per sq. in. When steam is used this is obtained from the boiler itself, starting up being accomplished by simple

auxiliary means. When air is used a compressor is required. In addition to the necessary piping, a small feed tank must be provided, and may advantageously be supplied with coils, so that the oil can be heated by waste steam.

System No. 3, which is economical in running, has been developed in recent years as a result of much experimental work carried out for the British and American Navies. It probably represents to-day the high-water mark of efficiency in oil burning, and is an achievement of engineering skill applied to a specific purpose.

In the pressure system of oil burning the oil itself is delivered to the burner under a pressure of from 40 lb. (in low-pressure installations) up to 150 lb. and 200 lb. per sq. in., and at a temperature of from 200 deg. F. up to 300 deg. F., or more. The internal mechanical arrangement of the burners is such that by the time the oil leaves the burner it is so completely atomised that the fine spray or mist is almost invisible. The necessary air for the combustion of the oil is supplied partly by induction through the burner and partly by

induced or forced draught as when using coal. The pressure system is initially more costly to instal owing to the necessity of providing pumps, heaters, and filters sufficiently stoutly made to withstand the working pressures, but its advocates claim that so economical is the system in operation that the extra cost is quickly recovered. It is generally reckoned that the power required to operate the system is equal to a little more than 1 per cent. of the steam produced.

An installation for oil burning can easily be arranged along the wall of the boiler-house, or fitted into an oil-tight tray and placed in any convenient position. No alteration is necessary in the design of the boiler-house itself. A storage tank should be provided as near as possible to the boiler-house, from which the oil can be pumped to the feed tank. The capacity of the storage tank should be equal to at least two or three weeks' supply, and should be provided with steam coils for heating the oil when necessary in the cold weather. Any oil-burning installation can easily be fitted to existing boilers with very little alteration, in many cases with none at all. Further, they can be so arranged that the transfer from oil to coal, or vice versa, can be accomplished in a very short time.

Evidently, then, the use of oil instead of coal requires no special design in building and, in the case of existing works, no structural alterations are necessary. All that is required is merely the provision of the apparatus necessary for actually burning the oil and a tank for storing a supply, though possibly slight alterations to the furnace of the boiler (the provision of a baffle for spreading the flame and a layer of broken brick on the fire bars), may be required, and then fuel oil can be used with all its many advantages.

Oil fuel is cleanly in use, raising no dust and giving no smoke. The boiler-house itself, as well as its atmosphere, remains clear and uncontaminated, and with any good oil-burning installation there should be no smell. One of the greatest advantages of liquid fuel is the saving in labour costs. There being no stoking or clinkering, one man can look after a battery of boilers and wear good clothes at the same time. These advantages become more apparent the larger the works and the more boilers there are in use, but there are many cases where even a small vertical boiler can be fired by oil with every advantage.

We understand that the Anglo-American Oil Company, Ltd., 36, Queen Anne's Gate, Westminster, S.W.1, to whom we are indebted for the above information on the subject, will gladly furnish any further details regarding installations, oils, or prices, to those who are sufficiently interested to pursue the matter further.

CORRESPONDENCE.

The First Atelier of Architecture.

SIRS,—Both Sir Alfred Mond and Sir Lionel Earle spoke in eulogistic and complimentary terms, at the recent luncheon given by the Society of Architects, of the results of the establishment in this country by the Society of the first Atelier for the instruction of students in the higher principles of architecture, and agreed that the Government should be urged to encourage the system by giving State recognition.

The wonderful exhibition of students' work still on view at the Society's headquarters, 28, Bedford Square, W.C., has resulted in a large number of congratula-

tions, as well as applications from various parts of the United Kingdom, and recommendations for a similar display of the drawings in the principal cities and towns, which, I may say, will be acceded to as far as possible. But, for the information of those to whom I am unable to reply individually, I wish to assure them through your valuable paper that it is the intention of the Society of Architects to take the necessary steps, at the earliest moment, to place before the Minister of Education a proposition which, I hope, will result in Government recognition and support, as it is unquestionably in the best interests of the community, and of national importance, that architecture of outstanding merit should in the future be the rule instead of the exception throughout the country, and it is bound to have a beneficial influence on the temperament of all classes of His Majesty's subjects, particularly the workers, whose homes and surroundings should be pleasing to the eye as well as hygienic and comfortable.

EDWIN J. SADGROVE,

President of the Society of Architects.

TOWN-PLANNING CONFERENCE IN NEW ZEALAND.

A town-planning conference and exhibition was held recently in the Town Hall at Wellington, New Zealand. The Hon. G. W. Russell, in the course of his presidential address, said that the object of the conference was practical. New Zealand was a young country, and should endeavour to avoid the mistakes made by other countries. There the growth of industries during the last hundred years had tended to the aggregation of population in the cities, the depletion of the rural districts, and the creation of slums. Great Britain had realised its mistake, and during recent years town-planning associations and activities had been strongly in evidence. Various garden towns had been laid out, suburbs created for the purpose of improving conditions, and a higher standard of living for the masses was being looked for. The movement had extended to Canada, America, and Australia.

The Housing Question.

The Hon. J. T. Paul said that the Dominion was not solving the housing question at present. In fact, the question was being made more difficult. The Government was trying to house the soldiers by assisting them to buy houses. This process of purchase naturally displaced other people and increased land values. The housing of the soldiers was accentuating the housing problem. Mr. Paul said that New Zealand needed the services of an expert town-planner.

Town-planning Legislation.

A paper on "Town-planning Legislation" was read by Mr. H. F. von Haast, who made a detailed survey of what had been done in other countries, and suggested the measures that were required in New Zealand. Mr. von Haast sketched the town-planning laws of Great Britain, Sweden, and Germany. "New Zealand town-planners will agree," he added, "that legislation is essential, and that little can be achieved without a town-planning Act somewhat on the lines of the English Act of 1909, but simpler, less cumbrous, and more elastic. There must be a central authority, a town-planning department, presided over by an expert town-planner, the pivot on which the whole machinery revolves."

Town-planning in New Zealand.

The Hon. A. M. Myers, Acting-Minister of Finance, read a paper on "The History and Justification of Town-planning New Zealand." New Zealand, he said, allowed its towns and cities to grow in haphazard fashion. It would cost little more to start on right lines than on wrong lines, but the ultimate effect would be enormously important. The men who had founded the New Zealand cities had neglected the future. They had shown no forethought in Wellington, where the Town Belt was a splendid heritage of the community. But later generations had not shown the same regard. New Zealand had exceptional opportunities of creating towns and cities of ideal beauty and utility, but it had not yet taken much advantage of these opportunities.

War Memorials.

Sir James Allen said that he intended to lay before Cabinet proposals for the acquisition of land in France, Gallipoli, and, perhaps, Palestine, on which to erect memorials to New Zealand soldiers. Great Britain and the other Dominions were securing these plots of land, and they had advised New Zealand to do so. It was proposed that they should have the memorials in the fields of France, but there might be a difficulty about Palestine and Gallipoli. Then there was the question of memorials in the foreign cemeteries of the world. The War Graves Commission was laying out the cemeteries with the advice of the best horticultural experts and the best architects. They were proposing to spend a million and a half of money in laying out the cemeteries, roofing, planting, etc. New Zealand was joining in, and their share of the expenditure was, he thought, £28,000 for the year.

Supply of Building Materials.

Dr. J. P. Frengley, representing the Public Health Department, in the course of a paper dealing with the health and well-being of the people, said: It was a correct assumption that town-planning had been entirely neglected in New Zealand. Sanitation, for example, had received a great deal of attention. It was worth remembering that the straight streets which offended the eye of the town planner were regarded with favour by the sanitary engineer. Standardisation of the homes spelled monotony. The provision of building material was a problem to be faced. Timber was scarce, and brick yards had been lying idle. At the same time the price of land was continually rising. Of what use was it to tell the people how to build beautiful homes when the average man could not buy either land or building materials?

QUESTIONS IN PARLIAMENT.

Major Christopher Lowther (C. Cumberland N.) asked the Minister of Health in the House of Commons on August 7, whether he was aware of the dirty condition of the streets in the neighbourhood of Paddington, and whether he would take steps to cause the streets in question to be thoroughly disinfected with the view of preventing the propagation of disease.

Major Astor replied that the Minister of Health had had no official representation on the subject, but in view of what had taken place he was in communication with the local authorities with a view to considering what steps it might be desirable to take to safeguard the health of the people. He had also been in touch with the local authorities of Kensington

same time. He understood that seven men were collecting refuse, and they expected to have twenty on the streets to-morrow.

Mr. J. Jones (Lab., Silvertown): Will the hon. member undertake to disinfect the two Councils concerned?

ELECTRICITY (SUPPLY) BILL.

Consideration of the Electricity (Supply) Bill was resumed by Standing Committee "B" of the House of Commons on August 6 with Sir S. Roberts (U., Ecclesall) in the chair.

Mr. Shortt (Home Secretary) moved to add to Clause 7 the following provision: "Where a generating station which is situated in a district electricity board under this section is in course of construction, extension, or repair, the rights and liabilities of the former owners thereof under any contract for such construction, extension, or repair shall be transferred to the district electricity board."

The amendment was agreed to.

Lieut.-Commander N. Craig (C.U., Dept. of Thanet) moved to add the further provision: "Interest at the rate of 6 per cent. per annum upon the standard price shall be paid by the district electricity board to the power owners of any such generating station or main transmission line as from the date of vesting thereof in the board until payment."

Mr. Shortt agreed to accept the amendment, but said he could not promise to accept 6 per cent.

The amendment was agreed to on the understanding that the rate of interest might be varied.

A further provision in the following amendments proposed by Mr. Shortt was also agreed to:

"Where a generating station which is situated in a district electricity board under this section is in course of construction, extension or repair, the rights and liabilities of the former owners thereof under any contract for such construction, extension, or repair shall be transferred to the district electricity board."

The clause as amended was added to the Bill.

The Committee adjourned until after the autumn recess.

BUILDING INTERESTS IN PARLIAMENT.

In the House of Commons on August 7 Lord Prescott (C.U., Tottenham, N.) asked the Minister of Health whether he was in a position to make any announcement concerning the request of the consent authorities, seconded by the Water Board and the London County Council, for an inquiry into the administration of the Metropolitan Water Board; whether the request for the setting up of a commission had been granted; and if so, could state when the commission was likely to sit and what the terms of reference would be.

Major Astor: Yes, sir; my right hon. member is considering the composition of a suitable body to inquire into the matter referred to in the question, and he hopes to set up this body very shortly. I cannot, however, to-day make any detailed statement.

Acquisition of Land.

The House of Lords considered (August 7) on the report stage the Acquisition of Land (Assessment of Compensation) Bill, which seeks to amend the law regulating the assessment of compensation in respect of land acquired compulsorily for public purposes.

Clause 2 of the Bill sets out that the value of land acquired shall be taken to be the amount which the land, if sold in the open market by a willing seller, might be expected to realise, "provided always that regard shall be had to all returns and assessments for taxation made or acquiesced in by the claimant during the three years next preceding the assessment of compensation."

The Earl of Selborne moved to leave out this proviso, which, he said, was not inserted in the original Bill by the Government nor by the House of Commons in Grand Committee. It was inserted on report stage, and after pressure from a group of members known as the Land Values Group. The object of the amendment on which the proviso was based was to alter the definition of values deliberately adopted by the Government.—The Lord Chancellor, opposing the amendment, said the proviso merely carried out the intentions of the Government, as promised by the Prime Minister when Chancellor of the Exchequer.—On a division the amendment was rejected by 31 votes to 20. The Committee stage was concluded.

Expenses of Afforestation.

An explanatory memorandum was issued on August 7 as a White Paper, on the expenditure likely to be incurred under the Forestry Bill. It is estimated that the total expenditure will be £3,418,500, and this figure is made up under the following seven headings: Scheme for afforesting 150,000 acres by direct State action, £2,245,000; advances to local authorities and private owners, £327,500; purchase and reconstruction of devastated hardwood areas, £300,000; education, £45,000; research and experiment, £30,000; establishment charges, £446,000; encouragement of forest industries, £25,000.

LONDON MUNICIPAL STRIKES.

The interesting announcement is made that in Kensington, where a strike of municipal employees is in progress, the Middle Class Union have arranged for voluntary workers to clear the streets.

In response to the invitation of the Kensington Council there were numerous applicants for the positions rendered vacant by the 500 workmen who remained out on strike after the expiration of the time-limit given them by the council. Of these applicants 170 were engaged, comprising a good stamp of capable young men, including a fair number of ex-Service men. When this became known among the strikers a few of them sought an interview with the Borough Council officials, and asked to be re-engaged, but their services were refused. Subsequently a request was sent to the Town Clerk that the matter should be referred to arbitration, but it was pointed out that the council's offer to take this course a short time ago was refused by the men, and it was now too late.

A crisis was reached on August 7 in the dispute between the Paddington Council and its 280 dustmen, roadsweepers, carmen, and other workmen. The men went out on strike on July 25, on the question of a forty-seven-hour week. This was granted by the council, but the strike continued on the question of back pay for all hours worked in excess of the forty-seven since the last pay-day in May. Subsequently an ultimatum was issued to the men warning them that if they did not resume their duty at the usual hour on Wednesday morning, August 6, they would be regarded as having terminated

their employment under the council. The men failed to return, however, and on this being reported to a special meeting of the Works Committee of the council the committee, acting on the delegated authority of the council, decided to advertise for men to take the place of the strikers. Since then advertisements have been issued for masons at about 72s. per week, wood paviors 55s., roller drivers 64s., handy men 65s., 53s., and 51s., night watchmen 47s., labourers 50s., sewer flushers 61s., convenience attendants 50s., farriers from 80s. to 68s., wheelwrights 80s., dustmen (piece-work), average 75s., carmen 53s., sweepers 49s., sweeping gangers 51s., and parkkeepers 50s. A high official of the council pointed out that in taking the course they had they were simply falling into line with the action taken by the authorities at Kensington, and he was hopeful that Paddington would be as fortunate as Kensington in securing men to take the places of the strikers. "I know," said this official, "that two-thirds of our former men want to come back, but they are simply afraid to do so because of the threats that are held over their heads." He added that the Works Committee were firm to a man in the decision they had made, and there would be no wavering. In the meantime arrangements have been made for a partial cleansing of the streets at night under the protection of the police, and a large number of householders are getting rid of their house refuse by burning it.

BOOK NOTICES.

Asphalt and Bitumen.

"Statue of Lugal-dandu, King of Adab (3000 B.C.), Showing Eye-sockets Lined with Asphalt." This is the frontispiece of Mr. Herbert Abraham's heavy volume, "Asphalts and Allied Substances." Having given a history of asphalt, the author becomes very technical. The book is crowded with charts, diagrams, and statistics, and deals exhaustively with every branch of bituminous substances. It is divided into five parts—the fifth part of sole value to the technical man. Mr. Abraham appeals (1) to the works chemist engaged in analysing products; (2) to the factory superintendent: supplying data for the compound of mixtures; (3) to the salesman who desires to know what he is selling; and (4) to the architect, engineer, and contractor who must understand the principles underlying the practical application of bituminous products. Thus it may be seen that Mr. Abraham's book is of high technical value.

"Asphalts and Allied Substances." By Herbert Abraham, B.S. of Chemistry, Member A.C.S., S.C.I., A.S.T.M., I.A.T.M. 25s. net. New York: D. Van Nostrand Company. London: Crosby Lockwood & Son, 7, Stationers' Hall Court, Ludgate Hill.

Hot-water Work.

Mr. Frederick Dye has brought out a practical treatise on hot-water supply, which is designed to appeal both to the experienced and to the beginner. With this object, the book is divided into two parts. Part I. deals with first principles—with hot-water supply as a subject for study and investigation. The author describes several valuable experiments which can be carried out without difficulty by the student; one of the utmost value for the proper understanding of the subject. Part II. is confined to practical work, such as will aid in installing and discovering the defects in the various systems of apparatus—in circulating pipes, in connections, and in boilers. It also deals with the various ills and diseases which attack these installations, such as noisy boilers and boiler

explosions. In the last chapter the fixing of gas boilers is described, because the gas heater is becoming popular, and will soon, so the author says, be a feature in every kitchen, the companion of the gas cooker. Above all, Mr. Dye insists upon the importance of experiment.

"Hot Water Supply." By Frederick Dye, M.R.I.C. Price 8s. 6d. (8s. 10d. post free in the U.K.). Messrs E. & F. N. Spon, Ltd., 57, Haymarket, London, S.W.1.

Guide to Government Property for Sale.

The fifth number of "Surplus," the bi-monthly official organ of the Ministry of Munitions Disposal Board, was published on August 1. Over 120 pages are devoted to the classification and description of surplus war material, and some new illustrations are given of national factories, machinery, etc., for sale. Huts and building material for disposal are conveniently grouped under counties, and another feature which will be found useful is the advance notices of the various auction sales classified both as regards materials and localities.

WEEKLY HOUSING RETURN.

The report on housing progress, issued weekly by the Ministry of Health, states:

The number of new schemes received by the Ministry during the week ended August 2 from local authorities and public utility societies was 211. The total number of schemes submitted was 3,797, representing an area of about 41,000 acres. At the average rate of ten houses to the acre, this area is sufficient for 410,000 houses. The rural authorities are responsible for the majority of the schemes submitted. Of the London authorities, the Kensington, Islington, and Stepney Councils submitted small site schemes. The Ministry have approved the site of 334 acres on the Page Estate proposed to be purchased by the Woolwich Council. Measures are being taken by the Ministry to prevent avoidable delay in the clearance of slum areas. In each of the housing regions into which the country has been divided for administrative convenience a deputy commissioner, provided with the necessary staff, and, working through the local authorities and their medical officers of health, is to devote himself solely to work for the amelioration of the slum problem.

Some publicity has been given to cases in which it is alleged that housing has been delayed owing to the intervention of the Ministry after the local authorities have provisionally agreed with landowners as to the price to be paid for the land required for housing schemes. The position of the Ministry may be shortly stated. Quite apart from any consideration of the financial aid given by the State it is clearly the duty of the Ministry to secure economies wherever possible. In order to ensure that excessive prices shall not be paid for land they require every local authority to consult the district valuer of the land valuation department regarding the value of the land proposed to be purchased. In the majority of cases local authorities are able to obtain the land they require at satisfactory prices by agreement. Where dispute has arisen negotiations have been undertaken by the valuation officers, and such negotiations had been completed in 300 cases up to the end of July. The total of the sums provisionally agreed upon or asked for these sites was £587,927; the valuation by the Government valuers was £416,800, and the price finally agreed to be paid £444,677. This represents a saving effected of £143,250.

The area of these sites is approximately 2,321 acres, and the above figures represent a saving of £61 per acre, or nearly a quarter of the amount demanded. The Tynemouth Corporation are proposing to buy some hostels erected for the Admiralty in their district. The hostels were constructed with the possibility in view of their ultimate conversion into flats, and the Corporation's plan is to use the hostels as dwellings for the working classes. The hostels are centrally heated and fitted with electric light, and it is estimated that there will be sufficient room for forty-four dwellings.

Details of local authorities' schemes dealt with during the week are as follows:

Building Sites.

Schemes Submitted.—The number of schemes submitted by seventy-five local authorities was 208, bringing the total number of schemes to 3,739.

Schemes Approved.—Eighty-six schemes were approved, representing 1,087.73 acres. This brings the total number of local authorities schemes approved to 1,111, representing approximately 15,600 acres.

Lay-outs.

Schemes Submitted.—Fifty-four schemes were submitted by forty-three local authorities, bringing the total number of schemes submitted to 602.

Schemes Approved.—Twenty-two schemes, submitted by twenty-one local authorities, were approved, bringing the total number of schemes approved to 265.

House Plans.

Schemes Submitted.—Thirty-nine schemes, representing 1,683 houses, were submitted by thirty-one local authorities. This brings the total number of local authorities' schemes submitted to 341, representing 19,063 houses.

Schemes Approved.—Nine schemes, representing 382 houses, were approved, bringing the total number of schemes approved to 189, representing 12,610 houses.

COMPETITIONS OPEN.

August 14.—Bootle : Houses.

The Housing and Town Planning Committee invite competitive designs for new houses, suitable for the working-classes, in one or all three of the small blocks, each bounded by roads, on the committee's housing estate in Orrell. Conditions and particulars may be obtained from Mr. J. S. Tumilty, Town Clerk, Town Hall, Bootle. (See letter from R.I.B.A. in next column.)

August 15.—Leamington : Memorial.

The War Memorial Committee invite architects to submit designs for the proposed memorial to be erected in Euston Place, Leamington. The Committee have appointed Mr. H. V. Ashley, F.R.I.B.A., 14, Gray's Inn Square, London, W.C., to act as the assessor, to draw up the instructions and particulars, and to adjudicate on the designs received. Premiums of £100, £50 and £25 are offered for the designs placed respectively first, second, and third by the assessor. Particulars and plan of the site may be obtained from Mr. L. Rawlinson, town clerk, on payment of £1 1s., which will be returned on receipt of a bona-fide design. Designs to be received not later than October 15. Any questions relative to the competition must be received not later than August 15.

August 22.—Bromborough : Laying-out.

The Bromborough Urban District Council offer a prize of £50 for the best scheme of laying-out for cottage purpose thirty-six acres of land at Bromborough the selected plans to become the property of the Council. Mr. Badger, director of housing for Liverpool, has consented to adjudicate. Plan of site can be obtained from Mr. W. A. Weston, clerk, on payment of 10s., which will be refunded on receipt of design. Designs must be sent to the Council Offices by August 22 and under motto.

September 1.—Armagh Electric Light Scheme.

The Armagh Urban District Council invite electrical engineers to supply plans specifications and estimates for an electric light and power scheme for the district. A prize of £20 will be paid by the Council to the engineer who submits the most suitable scheme. The prize-winner will be appointed engineer at the recognised fee for such work. Plans, specifications, and estimates to be sent to the Town Clerk by September 1.

September 29.—Incorporated Institute of British Decorators.

The Institute is offering two travelling studentships of £25 each for competition. The drawings must reach the Secretary of the Institute, Painters' Hall, E.C.4, no later than September 29, 1919. Further particulars may be obtained from the secretary.

September 29.—Bridlington : War Memorial.

The War Memorial Committee invite designs for a war memorial. Premium £100 and £50. Sending-in day, September 30. Particulars from the secretary 79, Quay Road, Bridlington.

Bootle Housing and Town-planning Competition.

The Competitions Committee of the Royal Institute of British Architects requests members and licentiates to refrain from taking part in the above competition, the conditions not being in conformity with the Institute Regulation for Architectural Competitions. The Committee is in communication with the promoters of the competition with a view to the amendment of the conditions.

LUTON PEACE MEMORIAL.

Luton has played a worthy part in the commemoration of the local men who gave their lives in the war by a permanent memorial of the Peace in the shape of a recreation ground, given by Lady Wernher, who is Lady of the Manor of Luton. This land, extending over eleven acres, is situated between Tennyson Road and Trapp's Lane, and is close to the Water Tower. In a letter conveying this gift to the Council Lady Wernher stated that as the Luton Hoos Estate was vested in trustees she would charge herself with payment to the trustees of the value of this site, and so be able to offer it as a free gift to the town, subject only to the Corporation undertaking to make it suitable and maintain it for the purpose for which it was given. Her desire was that it should be a permanent memorial of a glorious Peace, and also a mark of her own interest in the welfare and happiness of the people of Luton. The Council unanimously passed a resolution thanking Lady Wernher for this generous gift.

TRADE AND CRAFT.

Hanger Sockets for Reinforced Concrete Buildings.

One of the problems arising from the use of reinforced concrete for factory or house buildings is the provision of suitable mechanical fixtures. This has been solved, it is claimed, by the use of

mining industry to-day have brought into painful prominence the question of fuel wastage in the home. Much of this wastage can be directly traced to the various old-fashioned types of grates and stoves to which builders have clung so tenaciously in the past. The new and greatly improved designs in which the London Warming and Ventilating Com-

pany and day during the whole winter with but slight attention night and morning. They combine ventilation with heat by drawing impure air from the room. These stoves can be set up in any fireplace without disturbing the mantel or chimney-piece.

Demonstrations can be seen daily at the London Warming and Ventilating Company's show-rooms, 20, Newman Street, Oxford Street, London, W.

Cuirass Products.

To make their various products more widely known, Messrs. Cuirass Products, Ltd., of 39, Victoria Street, Westminster, S.W., have issued an attractive booklet. One of the problems the builder or constructional engineer has to grapple with is the protection of exposed objects from the destructive influences of the atmosphere, water, chemicals, gases, etc., and it is claimed for the Cuirass Products that they give great protection against those destroying elements. One of the firm's specialities is a liquid roofing, which, though made from tar, is different in its molecular construction from either tar or bitumen, and will not oxidise or run and crack in the hottest weather. It is especially recommended for worn-out felts, rubber substitutes, asbestos roofings, and rusty corrugated roofings, where it will save a considerable sum in renewals.

It may be mentioned, in proof of the above, that a roof coated for the Government seven years ago in Dublin is reported to be as good to-day as when first treated, and bridges painted in India five years ago show no signs of rust.

Cuirass oil is a preparation that is used extensively by the Admiralty. It is of high value as a wood preservative.

Other Cuirass products include asphalt for roads and flat roofs, oil fuel for Diesel engines, and a damp-course preparation, all of which are sure to be extensively used in the coming days of reconstruction and development.

Profit Cement Waterproofing.

The waterproofing of cement is now freely recognised as an essential detail. Waterproofing with Profit is simple and easy. Any labourer can use it with complete success. It is an all-British production and supersedes "Ceresit," which was made in Germany and at one time used very extensively in this country.

Having regard to the proved efficiency of "Ceresit," Messrs. Rogers, Welch, and Co., Ltd., acquired the German patent and obtained a licence from H.M. Board of Trade to manufacture Profit from the same formula.

R.I.B.A. RECORD OF HONOUR

We are informed that in the official Record of Honour published on page 161 of our issue of July 30 the name of the commander of H.M. Motor Launch 13, who destroyed many enemy mines, should have been given as Lieutenant E. F. Duncanson, and not as stated.

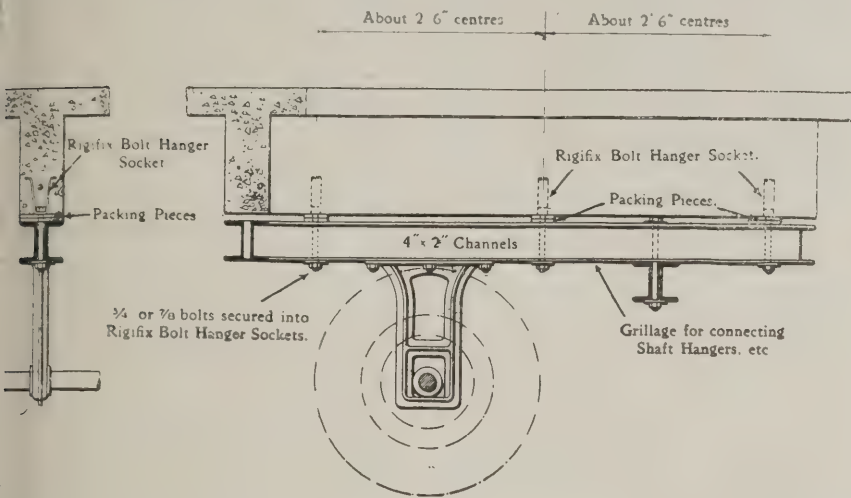
COMING EVENTS.

SEPTEMBER 4.

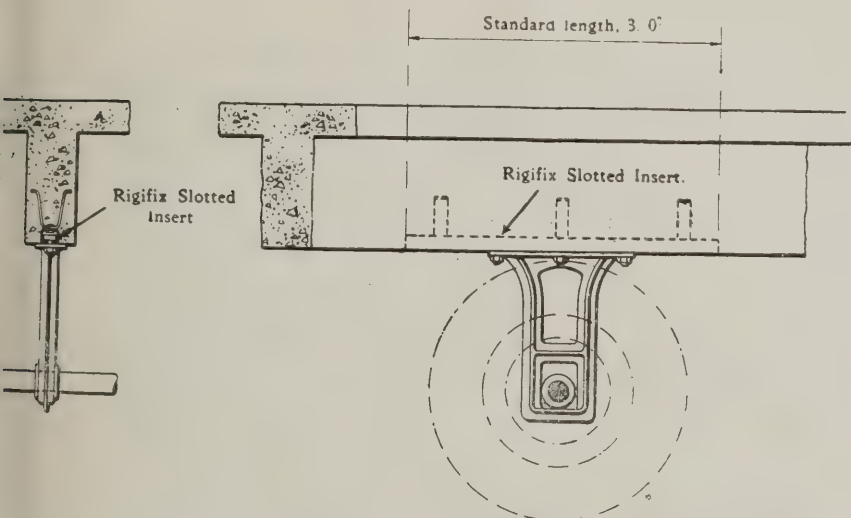
Institution of Municipal Engineers. London meeting of the Council.

SEPTEMBER 25.

Shipping, Engineering, and Machinery Exhibition. At "Olympia," Addison Road Station. Opening of the exhibition by the Right Hon. Lord Weir of Eastwood. The exhibition will remain open for three weeks.



"RIGIFIX" BOLT HANGER SOCKETS CONNECTING A STEEL GRILLAGE TO A CONCRETE BEAM.



"RIGIFIX" SLOTTED INSERTS CONNECTING SHAFT HANGERS DIRECT TO A CONCRETE BEAM.

"Rigifix" bolt hanger sockets and slotted inserts, which saves the expensive necessity of cutting into the concrete. These have been extensively used in some of the largest buildings erected in this country. Many works managers prefer to the shafting and other equipment fixed by a grillage fixed to the underside of beams overhead, and this grillage can easily be fixed to concrete when "Rigifix" bolt-hanger sockets are embedded in the beams. Machinery can be fixed down to concrete floors by bolts fixed into "Rigifix" fittings let into a concrete floor. As will be seen from the illustrations, the apparatus is simple to fix. Manufactured by Messrs. Building Products, Ltd., of Truscon House, South London, London, S.W.7.

Economy: Cooking and Heating Apparatus.

The recent paralysing miners' strike has created a general air of apprehension and anxiety which hangs over the coal-

many specialise will meet with more than an ordinary welcome. The old type kitchen range, for instance, always a source of trouble to the housewife, has been improved and modified to a marvellous extent, and in the "Kooksjoie"—one of the firm's many inventions—has reached a state that is very near perfection.

One of its great points is that if the range is placed against a blank wall three sides of the apparatus are accessible. It is adapted for all kinds of fuel, but it is claimed that the best results are obtained with anthracite.

The London Warming and Ventilating Company are amongst the pioneers of anthracite smokeless coal for household uses, and have always made a feature of closed stoves with mica fronts, which allow of a luminous, cheerful glow being seen, as well as its warmth being enjoyed.

One feature of the firm's base-burning stoves is that they can be kept alight night

The Week's News from Far and Near

Commencement of New Government Buildings.

Building operations for the new Government offices at Acton Vale were started on August 6.

New Fish Market for Ramsgate.

The Board of Trade intend to build a new fish market at Ramsgate to take the place of that used as a naval ammunition dump during the war and destroyed by a Zeppelin bomb.

Renovating St. Stephen's.

It is probable that new works will be carried out at the House of Commons shortly, including structural alterations in portions of the precincts. Since 1914 little or nothing has been done beyond occasional cleaning.

Dunkirk British Seamen's Institute.

It is proposed to erect a British Seamen's Institute at Dunkirk as a memorial to our merchant seamen. The institute is to contain a memorial chapel and court.

New Houses at Leeds.

The erection of two new houses has been commenced in a Leeds suburb, and the work is arousing considerable interest in the city. Forty-seven new houses are to be built at once at an estimated cost of £42,750.

Concrete Housing at Edinburgh.

The Edinburgh Town Council are making enquiries concerning the building of concrete houses, and the Housing Committee have visited and examined the concrete houses at Barnhill and the Tullis workshops where the concrete blocks were made.

War Memorial for Wotton-under-Edge.

A meeting of subscribers to the Wotton-under-Edge war memorial approved of a design of memorial, to cost £500. With the balance of over £100 the committee were empowered to have panels placed around the Town Hall bearing the names of all from the parish who had served in the war, stated to be upwards of 500.

Cenotaph in Exeter Cathedral Close.

Devon War Memorial Committee has decided that the county memorial to the men who fell in the war shall take the simple form of a cenotaph, surmounted by a cross, similar to those being erected in France. It is to be placed in the Cathedral Close. Lord Fortescue has been asked to select the design.

Bartlett School of Architecture.

In connection with the Bartlett School of Architecture at University College, London, the following new appointments have been made: Messrs. Martin Shaw Briggs, A.R.I.B.A., and H. Chalton Bradshaw, A.R.I.B.A., assistants, and Mr. Ernest P. B. Musman, B.A., assistant in the evening classes.

Condition of Nunbury Castle.

Somerset Archaeological Society have called the attention of the Inspector of National Monuments to the condition of Nunbury Castle, where, owing to the growth of trees and other causes, disintegration is proceeding rapidly. A portion of the wall has, it is stated, already fallen.

Housing at Frome.

At a meeting of the Frome Urban Council the Housing Committee reported that they had arranged for the purchase of 21a. 1r. 23p. of land for building purposes in various parts of the town, the agreed price for which was £4,251 1s. 9d., and the number of houses arranged to be

erected was 142. The report was approved, but the council decided to take legal opinion as to the wording of the resolution asking for a loan for the scheme.

Quantity Surveyors' Association.

At the last meeting of the Quantity Surveyors' Association, Mr. Walter Lawrance, F.S.I., of Bloomsbury, was elected president for the ensuing year, with Mr. Arthur Cross, F.S.I., and Mr. H. England, both of Westminster, as vice-presidents. Mr. Lawrance was the first president upon the formation of the Association sixteen years ago, and remained a member of the Council after the expiration of his term of office.

Concrete House at Nottingham.

A concrete house is nearing completion at Lancaster Road, Nottingham, by Mr. S. G. Richardson. The main walls, 9 in. thick, are composed of concrete slabs, grooved to fit into each other. The outer slabs are of weather-resisting concrete, and the inner ones of absorbent breeze concrete. The space between these two sets of slabs—about 4 in.—is filled in with concrete rubble. The slabs measure 18 in. by 12 in., and are "tied" at intervals with metal, embedded in the material on the principle of reinforced concrete.

Proposed Trades Hall for Harrogate.

Competitive plans are to be invited from architects throughout the country for the erection of a trades hall and Rowton Homes at a cost of £20,000 by the Harrogate Trades and Labour Club, who have purchased the Holmes Estate in High Harrogate. The large hall will have accommodation for 800, and there will be suites of rooms for the activities of thirty-three trade societies, ten friendly societies, and any other societies in the town. The proposed Rowton Homes or lodging-houses will have beds for fifty.

"City" of Huts at Paris.

As a solution to the housing difficulty in Paris it has been arranged that uncompleted buildings should be finished at the expense of the Government, and meanwhile a city of huts has been erected at a spot near the fortifications. The accommodation is intended for refugees from the invaded districts and for demobilised soldiers. Food and accommodation will be free to all those who can prove their right of entry to the "city," which has been provided with an infirmary, pharmacy, baths, and public washhouse, and is fitted with gas, electric light, and water laid on.

Housing Appointments.

West Penwith Rural District Council has appointed Mr. H. Madden (Penzance), out of ten applicants, as architect and technical adviser for the Council's housing scheme at a salary of £150 a year. The Denbigh Town Council has appointed Mr. James Hughes, of Denbigh, architect under its housing scheme. Mr. Hughes during the war was engaged at the Liverpool office of T. Taliesin Rees and Company, architects. Newton Abbot Rural District Council has appointed Mr. B. H. Palmer (Topsham) as architect for the housing scheme, and accepted an offer of Lord Clifford to sell the freehold of Hayes field at Kingsteignton for £200 per acre.

Lighting and Efficiency.

In a lecture before the British Scientific Products Exhibition at the Central Hall, Westminster, on July 28, Mr. Leon Gaster spoke of the great importance of scientific industrial lighting, in the interests of health, safety, and efficiency. The lecturer

gave instances of accidents due to faulty lighting, and of the improvement in output and quality of work resulting from improved illumination. The Home Office in this country had taken the lead in the matter before the war by appointing a departmental committee to deal with the matter, and a valuable report had been issued in 1915. In the United States there were no five States which possessed on industrial lighting, and this country should not lag behind. He hoped definite reference to adequate lighting would be made in the next Factory Act.

Birmingham Schools.

In a report submitted to a meeting of the Birmingham Education Committee, Sites and Buildings Sub-Committee, that the Housing and Town Planning Committee have been asked to make provision for new schools in all their housing schemes, and the chairman of the Education Committee has recently been furnished with information concerning development of the different areas, result of which the sub-committee already selected a site on the Yardley Estate. They have also approved a plan on the Batchelor's Farm Estate, Belgrave Lane, in place of one which has been appropriated for housing purposes. In case the Housing Committee have been requested to reserve a piece of land for school gardens, and it is the intention of the sub-committee to make such provision when purchasing sites in future schools in the undeveloped areas.

Chichester War Memorial.

The Chichester War Memorial Committee, after considering various suggestions for a memorial, have decided upon the restoration of the old Guildhall in the Priory Park, at an estimated cost of £3,500. The Guildhall is the remains of a monastery built by the Franciscan Monks. For 300 years after the destruction of the monastery it was used municipally, and was the Assize Court of Sussex. The restoration scheme by the architect Mr. E. S. Prior, A.R.A. (Professor of Architecture at Cambridge), provides for the construction of a raised dais at the eastern end of the old building with a platform on the wall containing the names of the fallen. The middle bays of the Guildhall are to be converted for the use of a hall, for which the raised dais will serve as a platform. The western end will be adapted for the purposes of a reading room.

Howden Housing Scheme.

At the meeting of the Howden Rural District Council on July 27, it was resolved to make application to the Public Works Loan Commissioners for a loan to meet the purchase of a site at Howden in connection with the housing scheme. The housing scheme for the whole of Howden rural district contemplates the building of about 250 houses, including thirty houses for Howden town. Much apprehension existed as to which authority was to build houses for police, civil servants, railwaymen, and the personnel of an air station. He gathered that the Riding County Council intended to build houses for all their employees, including police, but this seemed to be at variance with the speech of Dr. Addison, M.P. for Leeds. It was desirable that there should be a clear understanding as to the body each authority had to build. On the suggestion of the Chairman, it was decided to address a letter to the Ministry of Housing on the question.

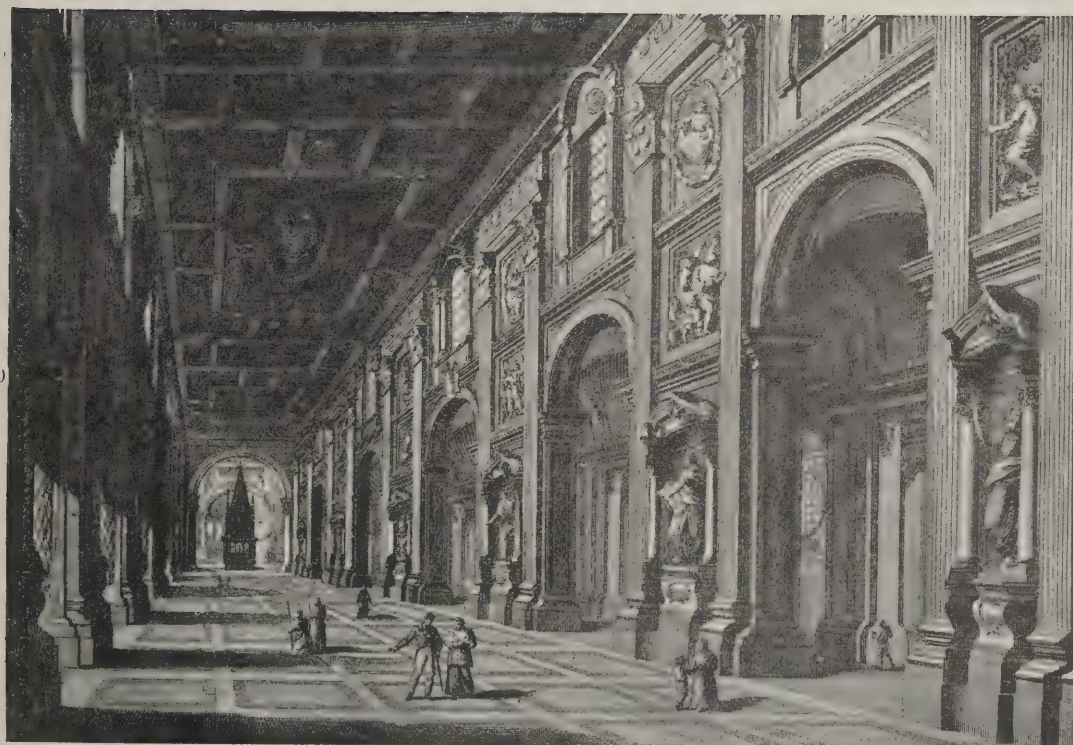
The Architects' Journal
Wednesday, Aug. 20, 1919

The Architects' Journal
Volume L. No. 1285

THE ARCHITECTS' JOURNAL

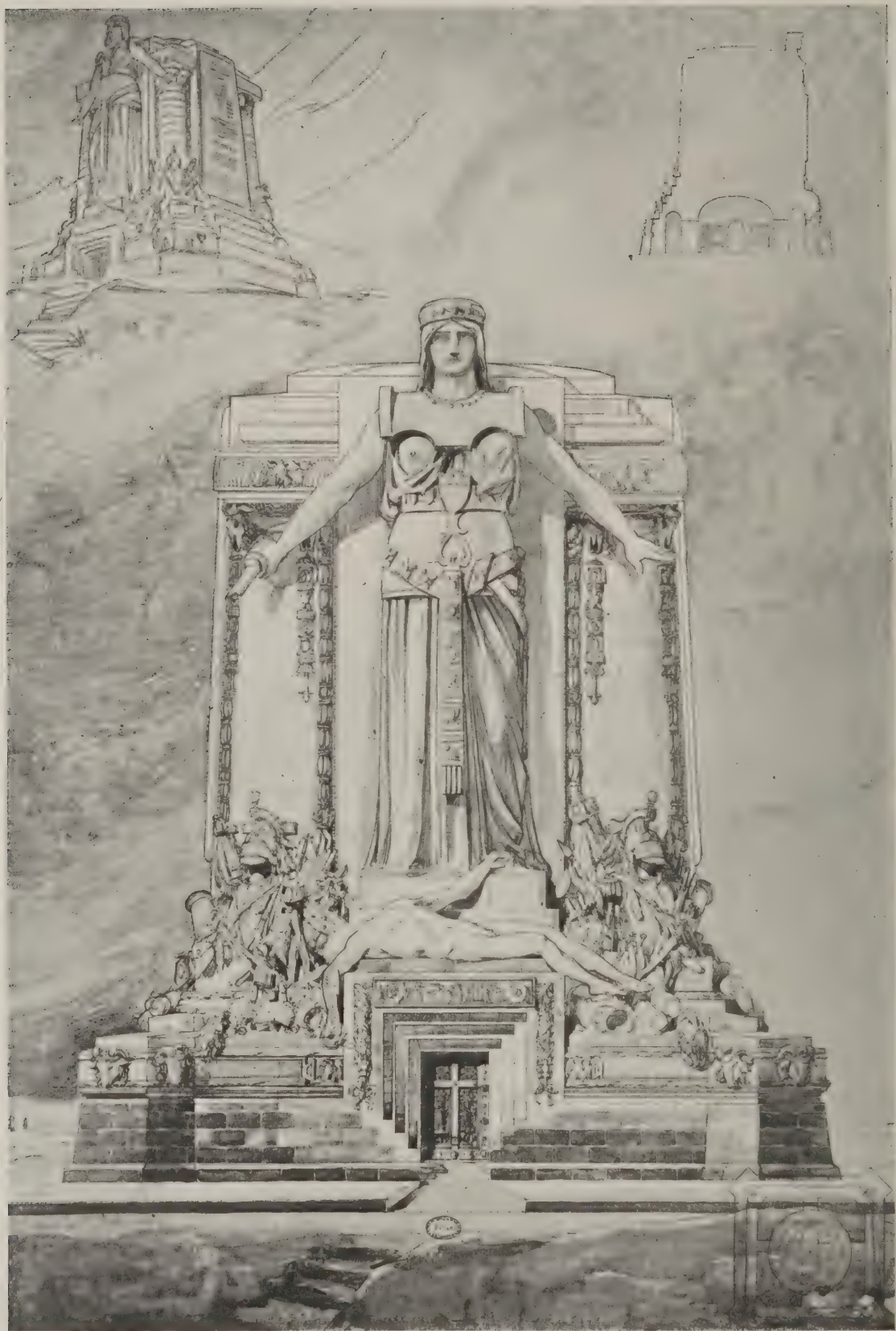
FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



INTERIOR VIEW OF THE BASILICA OF ST. JOHN LATERAN, ROME.

(From the engraving by Ruga.)



DESIGN FOR A COMMEMORATIVE MONUMENT. (CONCOURS ROUGEIN). BY M. DEBAT-PONSON.

(From the Exhibition of Beaux-Arts Drawings at the Society of Architects.)

THE ARCHITECTS' JOURNAL

Joint Editors: A. E. RICHARDSON, F.R.I.B.A., and J. FINDLAY McRAE.

27-29, TOTHILL STREET

Wednesday, August 20, 1919 WESTMINSTER, S.W.

Volume L. No. 1285

Picturesqueness in Architecture: An Analysis

THE fact that studied and scholarly art criticism fails to include architecture amongst its varied activities has been the subject of many recent regrets. Several diverse theories have been advanced in the endeavour to explain this apparent anomaly, but a possible one seems so far to have escaped attention. The use of this omission from art criticism is possibly to be found in certain extraneous qualities which architecture offers to itself in the course of time, rendering an impartial vision, for those who might make a willing effort to obtain it, a matter of great difficulty. These qualities may be loosely included in the term picturesqueness. And this is indeed a factor, the particular form which the original designer had but little conception of over which he had still less control.

This picturesqueness is ultimately of two kinds, which are so amalgamated with each other, in infinite variations, that in the particular it is difficult to decide the ponderant factor. The one kind is objective and takes effect entirely through the vision; the other is subjective and acts more directly upon the mind of the beholder. The former renders serious criticism a matter of great difficulty and only to be undertaken by one who has ever within him certain definite standards, the outcome of much patient study. These standards he may apply to all examples presenting themselves for his consideration, which he will thus be enabled to view liberated from their possibly delectable, but certainly parasitical, surroundings.

This subjective picturesqueness arises from certain sentiments and emotions to which the contemplation of a building may give rise, owing possibly to the association of ideas or romantic suggestions; but whereas in music and less often in painting and poetry—such emotions may constitute the sole reason for a work's existence, in architecture this is never the case. Such feelings as that of the satisfaction experienced at the sight of an old building, still faithfully serving the purpose for which its originator originally intended it, or as that of romance which the contemplation of an old house rich in the accumulation of tradition and history projects within the mind of the beholder, or again as that of the awe and reverence which are experienced within some venerable cathedral, the very vaults and glass seeming yet to hold back some of the originally consecrated atmosphere, are liable to hinder the critical faculties in their task of selection and rejection.

Human emotional faculties seem to be limitless in their diverse manifestations and yearnings, and one of the many functions of art is to satisfy them. Thus it comes about that the art forms of a particular period receive their tone from the prevailing sentiments and aspirations. Furthermore, it will be found that each period is curiously and intimately related with some previous one (an endeavour to discover a formula for this apparently arbitrary relationship would constitute a research of great interest); indeed, the present is always the unconscious outcome of the immediate past and the conscious revival of some remoter period. Thus, at

the moment the prevailing note is Georgian, and it is probable that before long a Victorian revival may be expected, for signs of its early advent are not lacking. Now it will be found that a certain picturesque glamour attaches itself to the revived age, resulting in a somewhat uncritical acceptance of all its art forms. This, then, constitutes another manifestation of the subjective picturesqueness, to which architecture is far more susceptible than are the other branches of Art.

Equally insidious in its influence is that objective picturesqueness—often a legacy of time—a gentle mellowing of the passing years; but often indeed it is some even more ineffable quality caused by shadows, or by the reflection of a golden sunset, or by a certain crispness of a winter's morning. Such qualities as the rich tone which the west ends of our London churches acquire in the fullness of time by their constant exposure to the driving rain on the prevalent westerly winds, or the massing of certain buildings against a well-harmonising background, or the sagging of an old ridge, the moss on a well-worn roof, or the gentle softness of texture, colour, and outline acquired by old stone work, are effects of picturesqueness, acting forcibly upon a receptive mind which must, unless great determination be brought to bear, distort the judgment by the first generous onrush of admiration at such beauty.

What allowances, if any, it may be asked, did the old builders make towards this effect of picturesqueness which their efforts were to acquire in the course of time, causing us to view their work with such a changed vision? Possibly from the examples of older buildings around them they noted the softening of colour and contour brought about by a few years' exposure, and were thus emboldened to embark on enterprises such as a diaper wall of square blocks of hewn stone and cut flints, knowing that their pristine freshness and garishness would soon give way to a pleasanter tone which might in time be generally admired, however much it would at first startle and displease. And thus the more important question arises as to the extent to which it may be considered admissible to aim consciously at the premature attainment of these effects; those which are due merely to the ravages of time being capable of a certain imitation. It may at once be said that such an endeavour indicates, apart from any ethical considerations of deceit, a paucity of ideas, for a building relying on such effects must be in itself devoid of architectural merit, which, as may already have been noted, is a matter of no such ephemeral or fortuitous results as those acquired by the passing of years or the accumulation of romantic associations. A picturesqueness which grows naturally and healthily along with the building may, however, be considered as entirely legitimate, as, for example, that which may owe its origin to the re-use of old materials, or to a particularly intimate harmony between a building and its immediate environment. It nevertheless must be realised that these qualities are entirely independent of any architectural merit which it may possess. It may therefore be said that all

tionally deceitful expedients, such as the wilful sagging of a ridge, are to be mercilessly condemned; for deceit should be regarded as inadmissible in art as in all other spheres of life.

It is impossible to formulate a precise hierarchy of the art, the whole matter not lending itself to such dogmatic treatment; consequently it is not possible to assign a definite place to architecture: but of the many qualities which differentiate it from the other arts, this manner of acquiring, as it were, a kind of glamour is the most unique. Age, fashion, rarity, all these may tend to hinder a clear judgment on other forms, but none acquires quite so distinct a quality having so little rela-

tion to the object to which it clings, and so much power to influence judgment. *Æsthetic* laws and rules—balance and symmetry—a close harmony between construction and ornament, purpose and form—have been evolved. In passing judgment, these it is that must be satisfied, and no criticism can be round that ignores them.

It may be said, then, that picturesqueness is often an entrancing addition to an architectural composition, many cases enhancing its beauty, but one whose presence must at all time be realised if sound judgment is to be maintained and healthy criticism undertaken.

H. J. B.

Notes and Comments

Two Momentous Reports.

MATTERS of vital concern to the building trade were discussed at the meetings of the Industrial Council for the Building Industry which were held on Thursday and Friday of last week at Hampstead Garden Suburb. Interest centred principally upon a startling report of the Building Resettlement Committee on "The Supply of Labour for Government Housing Schemes," and a somewhat revolutionary interim report by the Committee on Scientific Management and Reduction of Costs on "An Organised Public Service in the Building Industry." The former revealed the alarming fact that if every available man now engaged on building work were to be exclusively employed on housing schemes contemplated by the Government there would still be a deficit of over 100,000 men. The situation is infinitely more serious than most people anticipated. It would be extremely unfair to give housing absolute priority over every other class of building work, yet something like this seems to be inevitable if steps are not promptly taken to augment labour resources. The Committee makes many interesting suggestions to this end, and it is to be hoped that one or other, or a combination of all, may see us safely through a period of unexampled trial and difficulty. The interim report on an organised public service for the building industry being so extremely unconventional in its recommendations, we are not surprised to learn that the assembled master builders were disinclined to commit themselves to it without full consideration of all that it involves. In any case, the Committee is to be congratulated on having produced a document that is full of the new spirit, and one which marks a definite stage in the development of industrial organisation and management.

The New London Mart.

Those persons who imagined that the Mart, Tokenhouse Yard, was a national institution "as safe as the Bank of England," have been rather scandalised as well as disillusioned to find that the auctioneers of real estate have been brought as low as advertising for a new home may be held to indicate. They also are mortal, and those who so light-heartedly knock down other folks' great estates are now seeking to hire or purchase a little house-property where they can continue to bring under the hammer "this desirable residence, replete with all modern conveniences, and delightfully situated in its own grounds." They will pardon us a momentary flicker of mildly malicious pleasure at seeing the "auctioneers and estate agents" suffering some of the distresses and inconveniences of their natural prey, the house-hunter. But, indeed, we wish them the utmost success in their search.

Mr. Andrew Carnegie.

Although Mr. Andrew Carnegie, whose death occurred on August 11 at Lenox, Massachusetts, was the cause of much building by others, rather than an extensive builder himself, it will not be forgotten that, besides creating what has been called "an epidemic of libraries" in this country, in this respect completely eclipsing the late Passmore Edwards, Mr. Carnegie made much of his huge and unwieldy fortune of forty million pounds out of constructional ironwork—namely, by the conversion of inflammable and rickety wooden railway bridges. His benefactions, of which it is said that a complete list is impossible, have enriched this country for ever, and to an incalculable degree, not only through the scores of free libraries he has built and endowed, but through his magnificent gift of two million pounds to the Scottish universities, and the presentation (through Lord Morley) to Cambridge University of Lord Acton's famous library. He gave away, it is estimated, nearly eighty million pounds, and it must be acknowledged that, on the whole, his gifts were discreet rather than lavish, as

becomes a native of Dunfermline, where he was born, he is said, in 1837, but the local authority puts the great event ten years earlier. It is as a great and wise giver or distributor of wealth rather than as a great steel magnate that Andrew Carnegie will be best remembered, and whatever monuments may be erected to his memory in this country, nothing could be more suitable than any one of the neat little libraries which through his enlightened generosity have been scattered broadcast through the kingdom. Each of them reflects very strikingly his homely, douce, and discreet character. There can be no question that, taken as a whole, the Carnegie libraries show much more dignity and solidity than those that preceded them.

Scotland's War Memorial.

Edinburgh is without question the most fit and proper place in which to erect a national memorial to the hundred thousand men who have laid down their lives for the honour of Scotland. Take it for all in all, it is the noblest of modern cities, and the fine hills that encompass it—the Blackshaws, the Braids, the Calton—offer an unrivalled choice of sites. It is not merely because of its fragment in imitation of the Parthenon, nor of its Greek-modelled High School and its several monuments reminiscent of Greek temples, that Edinburgh has been dubbed, partly in derision, "the Modern Athens." It has a more substantial claim to that title in its physical conformation and contour. Moreover, there would seem to be some spirit of the hills that inspires noble building and dignified sculpture; and there is, the fame of "Greek Thomson" attests, an affinity of sorts between the Greek and the Scottish temperament in art. Greece has infinitely more grace, Scotland has bettered the counsel of "Doric severity." Clearly, therefore, the augur for a supremely noble monument to Scotland's dead are highly favourable, notwithstanding certain objections—led by Lord Rosebery—to the Castle Hill as a site. On such details there is always, especially in Scotland, scope for a healthy difference of opinion. Before advancing the required sum of two hundred and fifty thousand pounds for the memorial, the Scottish liegemen will want to thresh out quite thoroughly the question of site. That the dispute about the site for the Usher Hall dragged for weary years should be a wholesome warning in the present instance. That Glasgow also will want to set up a great memorial we cannot doubt; but the one memorial need not at all interfere with the Edinburgh scheme.

Satellite Towns: A Dark Secret.

Somewhere near London—we are not told where—there is to be erected—by whom is not disclosed—a "satellite town," one of the first of a series [a dark saying] of great industrial communities ultimately to ring the metropolis. It is all so very mysterious that we do not feel that it would be quite safe to mention the title of the newspaper that makes the thrilling announcement, more especially since our cryptic contemporaries set forth the following cautions hint, under the heading, "The Site Still a Secret": "As it is not politic to mention the actual site yet, it can only be said that the town will be situated close to the main line of one of the biggest [*sic*] railroads in the country, in a county to the north of London, and within twenty-five minutes rail service of the capital." Sherlock Holmes, being dead, the case is hopeless, even with the additional clue that there is a titled vendor, and that "an eminent town-planner has already put up designs"—which is a remarkable thing to do, but its oddity is completely eclipsed in the sequel—"so that when work is commenced the whole structural details will be ready for completion according to plan." A real clue to the mystery is that "this new town will be situated in a very beautiful and historic neighbourhood." This points quite definitely to Hackney Wick. But we are mercifully informed that "the official veil of secrecy will be lifted in about a month from the

"In the meantime it may not be disclosing any very important State secret to relate that several eminent architects whom this intelligence has been submitted—carthorses shall drag their illustrious names from us—have delivered unanimously the considered judgment that all this mystery-ggering and camouflaging is the limit of silliness.

The "Architectural Review."

The August issue of the "Architectural Review" should appeal strongly to architects, and, indeed, to all who appreciate fine architecture, fine craftsmanship, and graphic art. Prominent among its many features is an article on the house of Mr. Rudyard Kipling, "Batemans," Burwash, Sussex, by Mr. Nathaniel Lloyd. This house is a fine specimen of the Elizabethan-Jacobean style, dating from 1634, delightfully situated in the valley of the River Ure, of which it commands extensive views. The house has all the homely characteristics of its type—projecting wings, fine gables and mullioned windows, splendid groups of chimney stacks, and deep, well-proportioned roofs. From every point of view it is a delight to the eye. Mr. Lloyd gives graphic views of all fronts, the most attractive, especially, being one showing the house and its leafy setting enclosed in a broad expanse of formal water. Anything more delightfully picturesque than this it would be difficult to imagine. The interior of the house fulfils the fine promise of the exterior: its timber-and-plaster ceilings with partly-exposed rafters, its open hearths, its panelled walls, and its general furnishings all combining to present a perfect picture of the ideal early seventeenth-century mansion. The gardens provide a wonderfully effective setting to the house. "Passing from garden to garden," says Mr. Lloyd, "one finds new beauties and joys in each. Here are terraces, frames of yew hedges recessed for seats where one may linger to enjoy the view. There . . . is a paved rose garden, and pleached limes which flank the large lawn. We do not know who it was that designed and built the house, but we do know that the garden was planted and developed by the present owner, Mr. Rudyard

Kipling. 'The glory of the garden is in the mind that conceived it—in the carrying out of the conception and making it a worthy setting for the house which it surrounds.' 'Such gardens are not made by saying, "Oh, how beautiful!" and sitting in the shade.'

This issue of the "Review" also contains an article on the work of Mr. S. C. Rowles, "a new architectural draughtsman," whose capacity is well shown in a selection of delicate pencil drawings of Bruges. These, Mr. Emanuel, the writer of the accompanying notes, observes (and few will disagree with him) "should go far towards establishing him among our leading draughtsmen. The delicate precision of his touch, his sensitiveness to form and construction, and his admirable feeling for composition, combine to place him in the front rank."

Mr. Walter H. Godfré's series of articles on "War Memorials: Suggestions from the Past" is continued, table-tombs and headstones being shown in wide variety. The examples given have been selected for their interest as characteristic specimens of vernacular memorial art, and they should provide the artist with many useful motifs and suggestions. Lieutenant T. P. W. Young cleverly describes and skilfully illustrates his impressions of "A Ramble in Cairo."

Mr. M. H. Baillie Scott contributes a topical and well-written article on "The Charm of Natural Planning," in which he questions how far the making of a town should consist in the realisation of a pre-determined plan, or how far it should be allowed to develop naturally. He concludes, and most town planners will probably agree with him, that the best solution is to lay down at least the main lines, and yet leave some possibility of variation in the lesser streets. Mr. Baillie Scott is so well qualified to speak on this subject that all who are in any way concerned with the great town-planning developments of this present time should make a point of reading it. Though brief, it is rich in suggestion. Other features of an uncommonly interesting number include a notice of the War Memorials Exhibition at South Kensington, and a fully illustrated account of the new High School at Dalziel, lately completed from the designs of Mr. S. B. Russell, F.R.I.B.A.



THE HALL OF "BATEMANS," BURWASH, SUSSEX, THE RESIDENCE OF MR. RUDYARD KIPLING.

(From the "Architectural Review.")

Architectural Causerie

RECENTLY I was staying in the country enjoying the delights of a manor house designed by Holland, not the least of which was a temple at the end of an avenue. In company with an artist friend a pleasant hour was spent within the panelled walls of this eighteenth-century retreat, which when lit up by wax candles recalled the vanished glories of Ranelagh. Our gossip veered round to the subject of wall decorations, from the earliest examples of the art in Egypt to the latest taste in wall-papers, and, as at the time it proved of mutual interest, I am giving a synopsis of the discussion in these columns.

* * * *

Precedent can be found for most things, in fact it is almost impossible to strike out an original line of thought; in architecture, we invariably find the Egyptians, the Greeks, Romans, or Chinese have forestalled any invention we claim as our own. Interior decoration occurs on the ceilings and walls of tombs and temples, on the western banks of the Nile and other places in Egypt. Many ruins of antiquity reveal designs representing burial ceremonies and domestic occupations, and modern investigation has proved that a similar system of decoration and colouring was the fashion in the homes of the Egyptians thousands of years ago. For additional evidence of the love and desire for cheerful colour the ruined buildings of Pompeii and Herculaneum afford perfect illustrations of Roman taste, the colours preserved under the deposit of Vesuvian ashes. This form of painting was executed in distemper, the common kind being ordinary water-colour; but the more elaborate and durable was treated with some species of glue to resist water. From the originals at Pompeii have been obtained ideas of the low dado, the flat wall pilasters carrying a frieze, and the motif of a central crush for the intermediate panels. It is almost certain that the officials sent from Rome to administer the affairs of the British Colony had the walls of their villas decorated in the same manner as the houses of Pompeii, although almost the only surviving example in this connection is the mural painting discovered with the remains of the Roman Villa at Carisbrooke in the Isle of Wight.

* * * *

And so we approach the subject of ornamental distemping and oil painting peculiar to the sunny warmth of Italy. In England the damp atmosphere and frequent changes of temperature formerly prevented its general use, but improved methods of treatment have made this form of decoration extremely popular.

Oil painting is of more recent application than distemping, though it has been practised from a very early period. It is recorded that in the year 1236 an order was given to the King's treasurer "to have the King's great chamber at Westminster painted of a good green colour in the manner of a curtain," and that in 1237 the Queen's chamber was ordered to be "well painted with images of our Lord and angels, with incense pots."

As early as 1250 historical paintings are stated to have been in use. There is the famous work of Matthew Paris at St. Albans, and the faded decoration in the church at Houghton Conquest to show what scope the imagination of the old designers allowed.

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Now, it is inevitable that some reference should be made to tapestry, a form of decoration inexpressibly dear to the French and English, although in these days the majority can only pay pilgrimage to Hampton Court, Knole, or South Kensington to admire the weavings of the past. As far as this country is concerned, the art of tapestry weaving was revived by one William Sheldon in the reign of Henry the VIIIth; this enterprising artist brought workmen from Flanders in the year 1540. Previously, as early as 1392, Lord Arundel bequeathed to his wife Philippa the hangings in his hall that had been made in London. Gradually tapestries were brought to perfection, thanks to the patronage of Wolsey, and about the time of the threat from Spain these specimens of weaving were not uncommon in the houses of the merchants and tradespeople of London town. Indeed, it is not too much to say that increased interest was given to the rare needlework of Elizabeth's day, and that the samplers of the seventeenth, eighteenth, and early nineteenth centuries owe some part of their beauty to the respect paid to the woven pictures of the earlier periods.

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About the time Scotch James was alarmed by the spread of London towards the country, and sought to repress tobacco and wiches, tapestry manufacture was fostered by the Government. Charles the First and his favourite Buckingham had a weakness for the luxury of richly coloured wall hangings, and

the former patron of the arts even granted an annuity of £2,000 for ten years towards the manufactory established at Mortlake by Sir Francis Crane. The tapestries so produced acquired great celebrity, and were highly esteemed, but the civil wars, in addition to putting an end to the ambitions of Inigo Jones, ruined the trade at Mortlake.

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At the close of the seventeenth century an attempt appeared to have been made to revive the industry, no doubt encouraged by the proximity of Hampton Court, and in 1720 the enterprising weavers of Surrey sought to compete with the Gobelines of Paris. About the time Taylor and Paine were securing the best commissions in architecture, and a few years before Le Roy and Stuart rediscovered the refinements of Greece, the last of the English tapestries were made to enrich the house of the Earl of Egremont in Piccadilly. While on this subject mention must be made of the hangings ancillary to tapestry proper, such as the silks, satins, and velvets in use during the same period, which in all probability adorned smaller apartments and were employed to foil the oak panelling and furniture. Stamped, painted, and gilded leather had been in use from the time of Henry VIII., invented by the Spaniards and introduced into England by the Flemings. In this we can see the transitional link between the employment of expensive tapestries and the application of paper-hangings.

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Prior to the invention of paper-hangings, linen, cotton, and other kinds of hangings were made in imitation of the tapestries, velvets, and silks then in use. Flock or powdered woolle was invented in England by Jerome Lanyer, who obtained a patent for it from Charles the First. The making of plain paper is intimately connected with the invention of paper-hangings. Dr. Ure states that the earliest trace of the manufactory of paper in this country was at Stevenage, in Hertfordshire, in 1408. It was also made at Dartford, in Kent, in 1588; but nearly a hundred years ensued before any really serviceable paper was manufactured.

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Five years after the Restoration, Charles Hildeyerd obtained a patent for "The way and art of making blew paper used by sugar bakers and others," it is strange that the association of blue paper bags with the parcelling of sugar by grocers has only recently gone out of fashion. In 1775 a patent was taken out by one Eustace Barneby for "The art and skill of making all sorts of white paper for the use of writing and printing, being a new manufacture, and never produced in any way in any of our Kingdoms or dominions." This appears to have been the beginning of the making of such paper, but it was not altogether successful, for ten years later John Briscoe wrote his specification for another patent, "The true art and proper way for making English paper for writing, printing and other uses, both as good and as serviceable in all respects, and especially as white, as any French or Dutch paper—which hath been the great defect of all other pretenders and undertakers who have hitherto had patents for making paper."

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George Tomlyn seems to have been primarily responsible for the introduction of paper-hangings, as appears from the patent he obtained in the year 1662, but the first real patent for hangings of this description was taken out thirty years afterwards by William Bayly, "Whereas William Bayly hath, by his humble petition represented unto us, that he hath by his industry and his great expence, found out and invented a new art or Invention for Printing all sorts of Paper of all sorts of Figures and Colours whatsoever, with severall Engines made of Brasse and such other like mettals, with Fire, without any paint or staine, which will be usefull for Hanging of Rooms, and such like uses, and that the said Invention hath not been heretofore knowne or practised by any of our subjects, and hath humbly prayed us to grant him our Letters Patents for the sole use thereof."

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Bayly's method was evidently sufficiently near to the system of block printing to have rendered the obtaining of another patent unnecessary. It is to be conjectured that the earliest attempts were in the direction of imitating tapestry, velvet, silk, and the linen hangings then in fashion. In 1712 the manufacture of this species of commodity attracted the attention of the Government and a duty was imposed, and in 1715 an Act was passed to render the collection of the duty on stained paper more effectual. This Act was followed by another in 1792. More on this subject next week.



APARTMENT HOUSE, BOULEVARD ST. GERMAIN, PARIS. GAUDET, ARCHITECT.

Conversion of Large Houses into Flats:

Investigations and Recommendations of the Mansion House Council

CE the Mansion House Council on Health and Housing published its report in 1908 there have been considerable alterations in the housing conditions of London. The alms duties, introduced in 1909 to facilitate the acquirement of land for housing purposes, had, as an indirect effect, discouragement of investment in building schemes. This accentuated by the progressive fall in the market price of land available for trustees, which deflected money that otherwise have been invested in bricks and mortar. As it was, at the outbreak of war, a certain shortage of accommodation, especially in the outer suburbs of Greater London. But the vast changes caused by war conditions so that every aspect of the problem that it was necessary to consider many of the conclusions arrived at at the previous

Demand for Housing Accommodation.

conditions existing in London just before the termination of the war were as follows: In every district of London, or outer, the demand for moderate accommodation exceeded the supply. There were no building operations, so this shortage could not be relieved. Only in the worst of accommodation there appeared to be a lessening of crowding. There had been a shifting up of the inhabitants of the worst districts which met with a contrary stream of people coming down from the large and most highly-rented houses. The result was that there were a large number of better-quality houses empty, a great shortage of middle-class and working-class accommodation, and no serious overcrowding in the class of property.

The demand for housing accommodation is now enormous, and it is impossible to form any idea as to the districts where accommodation will be required. It may be expected that large numbers of so-called "family residences" will become vacant, at houses of about eight rooms will command ready tenants, and if economically possible will be built in large numbers. For smaller houses, say with five rooms, the demand is very large indeed, but it is probable that means of provision may be so improved and cheapened that large areas of comparatively cheap land in the outer suburbs will be available and will be found as convenient as the outer boroughs of London. The lower cost of land would enable gardens of dimensions impossible in the metropolitan area. This will also apply to houses built to accommodate one family, let in tenements of two, three, and four rooms, but, of course, will not meet the requirements of those who desire to invest their savings in the acquisition of their own house. The demand in the London area for working-class accommodation would be much reduced if the tendency, accentuated by the war, to remove factories into rural areas were to a great extent accentuated. Perhaps institutions employing large clerical staffs may also move out of London to places where land is cheaper.

Builders and Working-Class Dwellings.

It should be taken to encourage builders to devote their efforts to the erection of working-class dwellings by rendering them profitable. (1) The war-time restrictions on rent should be removed as soon as possible. Money should be advanced to builders of working-class houses or to persons having such houses built for their own occupation on the terms which were in force before the war. (2) Builders for profit of small houses should be free of any taxation on their profits beyond a certain amount. (3) The building materials in the possession of the State or obtainable by the demolition of buildings erected for other purposes should be sold through local authorities to the builders of workmen's dwellings at pre-war prices.

When the same time public borrowing ceases and capitalists no longer have opportunities of investing money with Government at exceptionally high rates, money will again flow into the building trade. It is evident that the fixing of rents at the incomes of those whom it is desired to house would be against any improvement of the position of the working class.

It would seem to be better to rely on the principle that rents should automatically bear a relation to the local rentals, as is the case with the different rates of wages current in town and country.

It is advocated that the houses of the working-classes should be more artistic in appearance. However advisable this may be, it is hardly fair that the extra cost incurred should be met by an increase in the rent of houses provided for the lowest-paid wage earners. The extra cost incurred in improving the appearance of the streets by the lay-out of an estate which is for the benefit of a whole district should be defrayed by the local authority. As regards the ground leasehold system, it is

objected that towards the end of the term of the lease houses deteriorate and become unsuitable for their original purpose, and it is impossible to expend any money on them for improvement in view of the approaching period of surrender. It would seem advisable to make provision for the termination of the contract in such cases on equitable terms so that the sites can be dealt with to the best advantage. Owing to the high cost of building, a considerable proportion of the expenditure incurred on any housing scheme will have to be written off as lost. It is well to consider whether any means could be found to tide over this difficulty for a limited period by adapting existing buildings for the use of tenement dwellers by the practice known as "making down."

The Question of Conversion.

It has been the object of the Mansion House Council to devote its energies rather to improving the conditions of existing housing accommodation and in the direction of "making down" than to questions of new construction. The rapid rise in the housing standards of the people, recognised in the Housing Bill of the Government, is the outcome of and mainly due to the work of the Mansion House Council and similar bodies in the principal cities of the United Kingdom. In the majority of cases the "making down" of large houses into maisonnettes for the middle-class, and the alteration of middle-class property into working-class tenements has been done in a haphazard way. Each owner has adapted the particular premises to suit the needs of the incoming tenant, and it has been found after long inquiry that, in the majority of cases, detailed plans have not been made, and only such plans as might be called for by the local sanitary authority for drains, etc., have been made. It is urged that, having regard to the shortage of material and the high cost of building, it is more economical to adapt property in which 80 per cent. of the material is in situ, with the added advantage of housing the residents within easy reach of their business, than to erect large ranges of new property with State funds on the extreme outer ring of our large towns.

Provisions of the Housing and Town Planning Act.

The provisions of the Housing, Town Planning, etc., Act in respect of existing tenement property or property made down are as follows:

Under the heading "Miscellaneous" the powers of making and enforcing by-laws under Section 90 of the Public Health Act, 1875, and Section 94 of the Public Health (London) Act, 1891, are in the case of houses intended or used for occupation by the working-classes greatly extended. By-laws can be made:

(a) For fixing and from time to time varying the number of persons who may occupy a house, or part of a house which is let in lodgings or occupied by members of more than one family, and for separation of the sexes therein.

(b) For the registration and inspection of such houses.

(c) For enforcing drainage and promoting cleanliness and ventilation of such houses.

(d) For requiring provision adequate for the use of and readily accessible to each family of:

(i.) Water-closet accommodation;

(ii.) Water supply and washing accommodation;

(iii.) Accommodation for the storage, preparation, and cooking of food, and where necessary for securing separate accommodation as aforesaid for every part of such house which is occupied as a separate dwelling.

(e) For the keeping in repair and adequate lighting of any common staircase in such house.

(f) For securing stability, and the prevention of and safety from fire.

(g) For the cleansing and redecoration of the premises at stated times, and for the paving of the courts and courtyards.

(h) For the provision of handrails where necessary for all staircases of such houses.

(i) For securing the adequate lighting of every room in such house.

By-laws made in virtue of these powers may prohibit the letting for occupation by members of more than one family of any such house unless the conditions laid down are complied with. (The italics are ours and the use of the word "may" in place of "shall" makes it optional on the authority making the by-laws to enforce them or not as they choose.)

In Sub-Section 5 power is reserved to the Local Government Board (now the Ministry of Health) to make by-laws for the regulation of houses occupied or intended to be converted for

the occupation of more than one family if it appears that the local authority has either not made by-laws or has made inadequate by-laws.

Sub-Section 6 provides that in cases where compliance with the by-laws would be contrary to the provisions of a lease or agreement, or where the whole or any part of the cost of compliance with the by-laws ought to be borne by the superior landlord the local authority may make application to the County Court, and after giving the lessor or superior landlord an opportunity of being heard the Court may, in the first case, order the provisions of the lease or agreement to be varied so far as they are inconsistent with the by-laws, and, in the second case, grant a charging order charging on the premises an annuity to repay the expenses incurred in carrying out the works.

Section 26 provides that where it is proved to the satisfaction of the County Court that owing to changes in the character of the neighbourhood a house cannot readily be let as a single tenement, but could readily be let if divided up into two or more tenements, and that the provisions of the lease do not admit of such conversion, the Court, after hearing any person entitled to any interest in the house, may vary the terms of the lease so as to enable the conversion to be carried out on such terms as the Court thinks just.

Section 27 gives power to the local authority to serve notice on an owner who fails to keep his house in all respects suitable for occupation.

Section 28 gives power to the High Court of Justice to authorise a superior landlord to enter upon premises as to which the Court are satisfied that they are or are likely to become dangerous or injurious to health or unfit for human habitation, and that the interests of the owner are thereby prejudiced, and to carry out a scheme of reconstruction or improvement approved by the local authority of the district. The Court may order the determination of any lease or under-lease subject to the payment of such compensation as it thinks fit.

"MADE DOWN" AND OTHER TENEMENT HOUSES.

By a "made down" house is meant one originally planned for occupation by one family only, but which is now divided up into separate tenements ranging from the single room to two, three, or four-room tenements. A house, in short, built for a middle-class family, but now tenanted by several families of working-class folk.

Effects of Altered Conditions.

1. **Water Supply.**—In many cases the only tap for drawing off water is in the basement, and it is rarely higher than the ground floor. The labour involved in carrying water from the basement to the second floor, usually a height of 30 ft., is considerable. On the assumption that eighteen gallons of water per day per head is the minimum allowance for all purposes (excluding the water required for water closets) for a family of only three persons, the weight of water which would have to be carried up per day would be 360 lb. The inevitable result is that the quantity of water used is curtailed and water is stored often in insanitary surroundings.

2. **Position of W.C.**—The one w.c. is either in the basement or in the yard at the back, or on the ground floor. All slops, therefore, must be carried down from the upper floors either to the basement level or to the ground floor. The result is the retention of foul waste water in the dwelling rooms, to the detriment of health conditions.

3. **Storage of Food.**—No provision for the proper storage of food exists as a rule on any floor except possibly in the basement. Food, therefore, has to be kept in the living rooms, which frequently serve the double purpose of living and bedroom.

4. **Cooking.**—In the majority of cases the only cooking stove with an oven is in the basement, all the other rooms being provided with an ordinary grate of a bad and wasteful type.

Remedial Legislations.

1. **Water Supply.**—London County Council (General Powers) Act, 1907, Sec. 78. For the purposes of Section 48 (provisions as to house without proper water supply) of the Public Health (London) Act, 1891, a tenement house shall be deemed to be a house without a proper and sufficient supply of water unless there shall be provided on the storey, or one of the storeys in which the rooms or lodgings in the separate occupation of each family occupying such house are situated, sufficient provision for the supply of water for domestic purposes.

2. **Water Closets.**—By-law made by L.C.C. under Section 39 (1) of the Public Health (London) Act, 1891: "The owner of any lodging house shall, subject to the provision hereinafter specified, provide and maintain in connection with such house water closet, earth closet, or privy accommodation in the proportion of not less than one water closet, earth closet, or privy accommodation for every five inhabitants of such house." The "provision hereinafter specified" refers to service of notice on owner to comply with by-law.

3. **Storage of Food.**—L.C.C. (General Powers) Act, 1907, Sec. 78. "If at any time it appears to any sanitary authority that in any tenement house within their district sufficient and suitable accommodation for the storage of food is not provided for the use of each family occupying such house on the storey or one of the storeys in which are situate the rooms or lodgings in the separate occupation of such family the sanitary authority may, if the provision of such accommodation is practicable, cause notice to be served on the owner of such house requiring him within such reasonable time as may be specified in the notice to provide sufficient accommodation for the purposes aforesaid, and any owner failing to comply with such requirements within the period prescribed in the notice shall be liable to a penalty not exceeding forty shillings, and a daily penalty not exceeding twenty shillings, provided that this section shall not apply to any tenement house used or occupied as such at the passing of such Act."

4. **Cooking.**—No legal requirements have been framed to deal with this question.

Notes as to Above.

Water Supply.—In practice, the problem is usually solved by providing a supply tap on the half landings. In a three-storey house a tap either on the half-landing between the first and second floors or on the second floor would be considered proper and sufficient supply."

Food Supply.—The section has never been put into force for the obvious reason that existing tenement houses are expressly excluded from its purview, and also because it is optional on the local authority to enforce it or not, as it pleases. The section as it stands is quite useless.

Action by Public Authorities.

1. **Water Supply.**—In the year 1912, 1,265 premises were after notice served, supplied with water under the provisions of the Act referred to above. In the year 1913, 1,213 houses were so supplied. In 1914 1,777 houses were so supplied.

2. **Water Closets.**—The requirements as to numbers of closets in relation to inhabitants have been as a rule complied with but as the law relates only to the proportion of closet accommodation to the number of inmates, the difficulty of position is untouched, since all the closets may be in the basement.

3. **Under part 111 of the Housing of the Working-Class Act, 1890.** In 1902 the Camberwell Borough Council acted under the provisions of the above Act the freehold and leasehold interest of a large insanitary area known as the Hollingbury Street area.

The method pursued by the Council was to acquire the property in the area gradually, to adapt and put it into thorough sanitary repair by expending what in private hands would have been the landlord's profit, and then to continue to let it to the poorest class of tenants at a very low rental and under the best sanitary conditions. The annual report of the Housing of the Working-Class Committee for 1903 states that the experiment has been successful. The cost of adaptation was roughly £45 per house (£6 10s. per room).

In contrast with this is the conversion of a notorious block of street in the Notting Dale area by the Kensington Borough Council. The work is fully described in the Executive Committee's report on the present position of the housing problem in and around London, 1908. It is interesting to compare the work with what has been done by Miss A. E. Dickin in the immediate neighbourhood. Some twenty years ago Miss Dickin, trained under Miss Octavia Hill, began to convert houses in this area, and now controls over 200, including many new cottages she has built. About two-thirds of these are two-storey cottages, some with four, some with five rooms. The remainder are three-storey houses of the smaller type. Miss Dickin's method is to put the houses into thorough repair and proper sanitary state and to let wherever possible to old tenants.

The late Mr. Sykes, in his Milroy Lectures (1901), had in mind a larger type of house and one of four storeys rather than three, when he advocated alterations or additions to existing "made down" houses with a view to providing adequate sanitary accommodation and improved ventilation to stables. One of his diagrams shows a five-storey house with three sculleries and a scullery in the backyard, and the same house provided with a separate scullery and a w.c. on each floor. As the plan is evidently only two rooms on each floor the plan restricts itself rigidly to two-room tenements. Something more is than this is wanted; a plan which can be applied to two, three or four tenements.

On similar lines the Paddington Houses Association, which dealt with a small number of houses in Woodchester Street and some in Clarendon Street. Houses in each of these streets are described in detail in Dr. Young's report on houses adapted for tenement houses appended to a report on that subject by the Medical Officer to the London County Council (1903). Clarendon Street is a long street, containing houses three storey high.



VESTIBULE OF THE CHIEF CUSTOM-HOUSE, BUDA-PESTH. NIKOLAUS YBL, ARCHITECT.



MOSQUE OF BAYEZID II., CONSTANTINOPLE.

basements, and the houses in the other two streets are r. As a rule there is a tenant to each floor, sometimes nants to the four floors. The balance-sheet of the com shows that the net result, after allowing for depreciation eholds and a small reserve, is a dividend of 4 per cent. outgoings are heavy, ground rents averaging about s. 1d. per house, repairs and insurance accounting for over £13 per house. As against this the empties and verable rents show a steady decrease.

work carried out by this association and by Miss Dickin any other workers on the same lines has the effect of g the houses under their control accord with the require- laid down by Sir Shirley Murphy. That is to say that enant shall have access to a water supply and sink, either own floor or on the half-landing below; further, the second provided not in the basement but on the level of the roof of ck addition, where there is one, but in any case on the nding above the ground floor. Each tenement is also ed with a suitable cooking stove, either gas or coal. remains the question of food storage, which is, in this of house, a difficult one to solve. It is abundantly clear any existing tenement houses can be adapted to meet all ements and that the wholesale demolitions advocated are cessary.

In Kensington and in other parts of London the work of converting houses, formerly let at rents of from £70 to £200, into maisonnettes has been carried out to a very large extent, and with most profitable results, and will no doubt be continued with greater energy. It is worth considering whether the smaller type of house, of which there are so many in St. Pancras, for example, cannot be profitably dealt with in the same way. In some cases it might be better to deal with two houses at once and by removing one staircase and entrance provide four-roomed self-contained flats.

Lastly, the use of basement rooms for habitation needs to be seriously tackled. There can be no question that the great majority of basement rooms in the tenement houses are wholly unsuitable for habitation. This remark applies to such basement rooms as are almost entirely below the street level. While such a room in the front of the house is obviously unfit for habitation, it may and does often happen that the back room, by reason of the difference in level between the street and the back yard, is almost entirely out of the ground, and for that reason cannot be regarded as uninhabitable. The solution would seem to be that the front room should be converted into the washhouse for the tenants, while leaving the back room available for letting.

(To be continued.)

The Plates Described

A Drawing from the Beaux-Arts.

NOTE on the Beaux-Arts drawings recently on exhibition at the Society of Architects appeared in last week's issue. A reproduction of one of the more notable of these drawings given on the frontispiece of this number. In this design rfully clever draughtsmanship obscures, but cannot be said e thoroughly accustomed to the mingling of symbolism alism in one and the same composition; but a guardian is towering high above the puny and prostrate form of eems to be carrying the illogical practice to a rather extreme. The monument would probably be more effective without its sculpture, superbly as this is put in. The groups chies are brilliantly designed, but they impart an appear- of fussiness that ought surely to be absent from a monu- commemorating the dead. For all our objections to it in le the design is a consummate piece of draughtsmanship, well illustrates the high standard of technical proficiency e Ecole des Beaux-Arts begets in its students. A time- f one week was allowed for this design.

A Paris Apartment House.

is a typical specimen of modern French street architecd- it is also a good example of the interesting manner h the French designer solves his elevation problem with- iving recourse to the eternal "order," with which badly rked feature we on this side of the Channel seem mostly o dispense without becoming strangely dull and unat- . Strip the façade of this Paris apartment house of its s and balconies and there is little left except plain solids ds—a striking instance, this, of the aesthetic value of ive addenda. Taking the elevation as a whole, it is a oportioned piece of symmetrical design, in which the turling element is the entrance with its "left bias." conies are well diversified, and it should be noted how y the architect leads the eye upward stage by stage, g the whole composition with full-width balconies at top om. The detail, though well designed, is, like a good modern French work, perhaps a little on the finical side.

Vestibule to the Custom House, Buda-Pesth.

rn Hungarian architecture, for all its suggestion of influence, has a strength and virility of its own, which l shown in that splendid building, the Custom house, h a view of the vestibule is given in this issue. There ase of harmony and completeness about this vestibule s due to the excellence of its proportions and the perfect ent of its details to the whole. Columns seldom look en standing upon isolated bases, but Nikolaus Ybl has d to make them appear satisfactory, in spite of the ojection that he has given to his plinth mouldings.

The Mosque of Bayezid II., Constantinople.

the fate of Constantinople again in the balance (the rms with Turkey being at the moment in process of nt in Paris) it is appropriate to draw attention once o the architectural treasures of what Mr. Edwin F. s has aptly described as "the gate of conquest and the of international commerce." Placed midway between

Europe and Asia, Constantinople has ever been the prize of the contending forces of East and West, and each in turn has adorned it with a pageantry of splendid art. The Turkish city of Stamboul reincarnates the older city of Constantine, but the aspect of the Byzantine capital has been almost wholly changed; and although many instances of its early mediæval art may still be found, yet the city of to-day remains essentially a monument of Turkish art. The church of S. Sophia, S. Irene, and the ancient walls, are now the only conspicuous Byzantine elements, and it is the fine succession of Imperial Turkish mosques, set along the skyline, which above all crowns the beauty of the city and endows it with such fair distinction. It was the custom of the Turkish Sultans to perpetuate their memories by the building of a mosque, and at Constantinople they successfully vied with one another in erecting a magnificent tribute to Allah and a convincing proof of their own piety and autocratic power. S. Sophia was naturally the model upon which their efforts were based. The earliest royal mosque which still exists was built by Bayezid II. in 1495-1515, and by its comparatively small scale and simplification of parts it shows itself to be an early experiment in the adaptation of the scheme of S. Sophia to the use of a mosque. The forecourt and mosque form a double square on plan, measuring 268 feet by 135 feet. The forecourt is surrounded by an arcade six bays square, each bay being defined by pointed arches set on columns, and covered with a cupola set on pendentives. It has three outer entrances, and the central entrance is emphasised by the wider spacing of the arcade. The mosque itself retains the essential structural scheme of S. Sophia in a central dome raised on four arches and set on pendentives, and combined with two semi-domes of equal diameter, and with corner cupolas. The placing of the minarets so widely apart gives an appearance of great size and breadth to the building.

Lecture Hall, Gresham College.

Conceived in the traditional manner of the English Renaissance, this hall is a handsome and dignified example of modern design. Its main architectural features consist of Ionic pilasters separating double doorways, which themselves are framed in with another and smaller order, comprising pairs of coupled columns with an entablature and curved pediment. These features have windows above them on the side walls, and decorative panels on the end walls. The use of the large order ensures unity and continuity of design, and each pilaster on the side elevations affords a point of incidence for the rib members of the segmental ceiling. The pilasters on the end walls may be objected to by the purist on the ground that they serve no constructional purpose beyond that of supporting the tympanum above, but they are obviously necessary in the interests of æsthetic effect.

Farm Buildings at Grassington Sanatorium.

At the Grassington Sanatorium, now approaching completion, about thirty miles from Bradford, it is proposed to erect farm buildings and a dairy on model lines and having an up-to-date equipment. The architect, Mr. W. Williamson, Licentiate, R.I.B.A., is city architect of Bradford, and was architect for the sanatorium, an illustrated description of which was published in our issues of March 12 and 19. As will

be seen from the plans on pages 240—1, the building will be situate on the south-west boundary, not far from the main road. These buildings will comprise four separate blocks, with the ground floor levels arranged to meet the natural fall in the site, and the spaces between the blocks will be formed into covered yards. The large central block will be occupied by a cow-house for sixteen cows, with the central feeding passage communicating directly with the mixing-room and a root store at the west-end, over which will be a large hay loft and granary, and adjoining the latter will be a large covered manure pit. In connection with the cow-house, two calf boxes will be provided. The block of buildings to the north provides for stabling, consisting of two stalls with a loose box and harness-room, and on the west side a provender-room. Adjoining the latter are the piggeries, with open yards in front and a feeding passage on the north side, which communicates directly with the boiling-room.

To the east of the large central block, and connected by means of a covered way with glass roof, will be placed the dairy buildings, which consist of the dairy, with boiler-room and setting-rooms, with a covered glazed verandah over the entrance.

It is intended that patients shall undertake graduated labour, and provision is made for this purpose. The joiners' and mechanics' shop and smithy will facilitate work of an urgent character being done economically by the patients, particularly in the repairs and upkeep of the buildings and plant. It is also proposed that joinery work, such as the erection of green-houses, potting sheds, and poultry houses should be done, also work of painting and repairs to boundary walls and fences. Roads and footpaths should also be carried out largely by patients.

The Afforestation Bill

IF an Afforestation Bill had been brought into the House of Commons before the war revealed the grave dangers of neglecting to ensure a sufficient supply of home-grown timber to meet contingent needs, it would have been promptly blocked. Now that the Commons are sadder and wiser, it is only on such questions of detail as whether there should be seven commissioners or eight that differences of opinion are likely to arise. Substantively the measure will now be welcomed with the unanimity which before the war would have marked its rejection. It is now clearly seen how fatuous were most of the arguments against home-grown timber: the chief of them being that while we could import timber so cheaply, its increased growth at home was not a paying proposition. That may well be; but the war showed the unwisdom of depending upon foreign supply, and the necessity for securing a home-grown supply that should be at least sufficient to meet a grave national emergency. It may be very true that the home-grown supply can never meet the normal demand; but that objection is beside the mark. Normal times do not enter into the question of ensuring that home-grown supplies shall be sufficient to meet natural requirements when enemy submarines make imports precarious. If that were its only object, the Bill would

be justified; but there are other reasons why afforestation should be promoted. One is that the improvement of our resources would put us in a better position to treat with foreign exporter. Instead of being compelled to take as rubbish that he chooses to send us—and of late years, our country seems to have been the chief dumping ground for dead wood and for stuff crazy with cup-shake, heart-sickness, and all the diseases known to the faculty—instead of paying any exorbitant rate he chooses to charge, we shall be able to hold him in check by reminding him that there is a home market.

It will be wise to take precautions to prevent the profit from cornering the home market, or from holding up supply or from exercising his ingenuity in any other way to the disadvantage of the individual or the ring may make exorbitant profits. Pirates and freebooters of this type have been hitherto allowed to follow their course of crime with impunity and even with applause; but the ethical code is under revision, and the fraudulent or usurious middleman may soon find that his notorious offences will become penal. If the severe punishment of profiteering is found to be capable of evasion, or otherwise ineffectual, the only constitutional alternative is to nationalise all those natural resources that are found to lend themselves with facility to fraudulent conspiracy. Clearly there are other strong reasons why woods and forests should be wholly taken out of private custody. Private owners have been known to cut down forests for a mere whim, or because they wanted the money that the timber would realise; and it cannot be denied that the planting has been most callously neglected. Not all owners or holders of forest land are willing to sow where they can reap—to plant trees for the benefit of posterity. It would be therefore, that ultimately the woods and forests will be nationalised, and that the scientific and economic care of them will be in the hands of men and women duly certificated in the school of forestry.

Proposed New Tower to St. Mary's Church, Kettering

THE proposed new tower to the St. Mary's Church, Kettering, an illustration of which appeared in our issue, will be faced with Weldon stone throughout. It will contain a peal of bells and the organ, which will be placed in a chamber a little above ground level. A small circular staircase, or vice, in one corner of the tower will give access to the organ chamber and bell ringers' chamber. The tower spire of the old parish church are some half a mile away, but the new tower has been so designed by Messrs. Gotch and Saunders, the architects, as not to compete with it either in appearance or height. In our last issue we inadvertently described the illustration as depicting a proposed new church, instead of a proposed new tower to the church. The church itself was some twenty-five years ago, in brown stone with Weldon stone dressings.



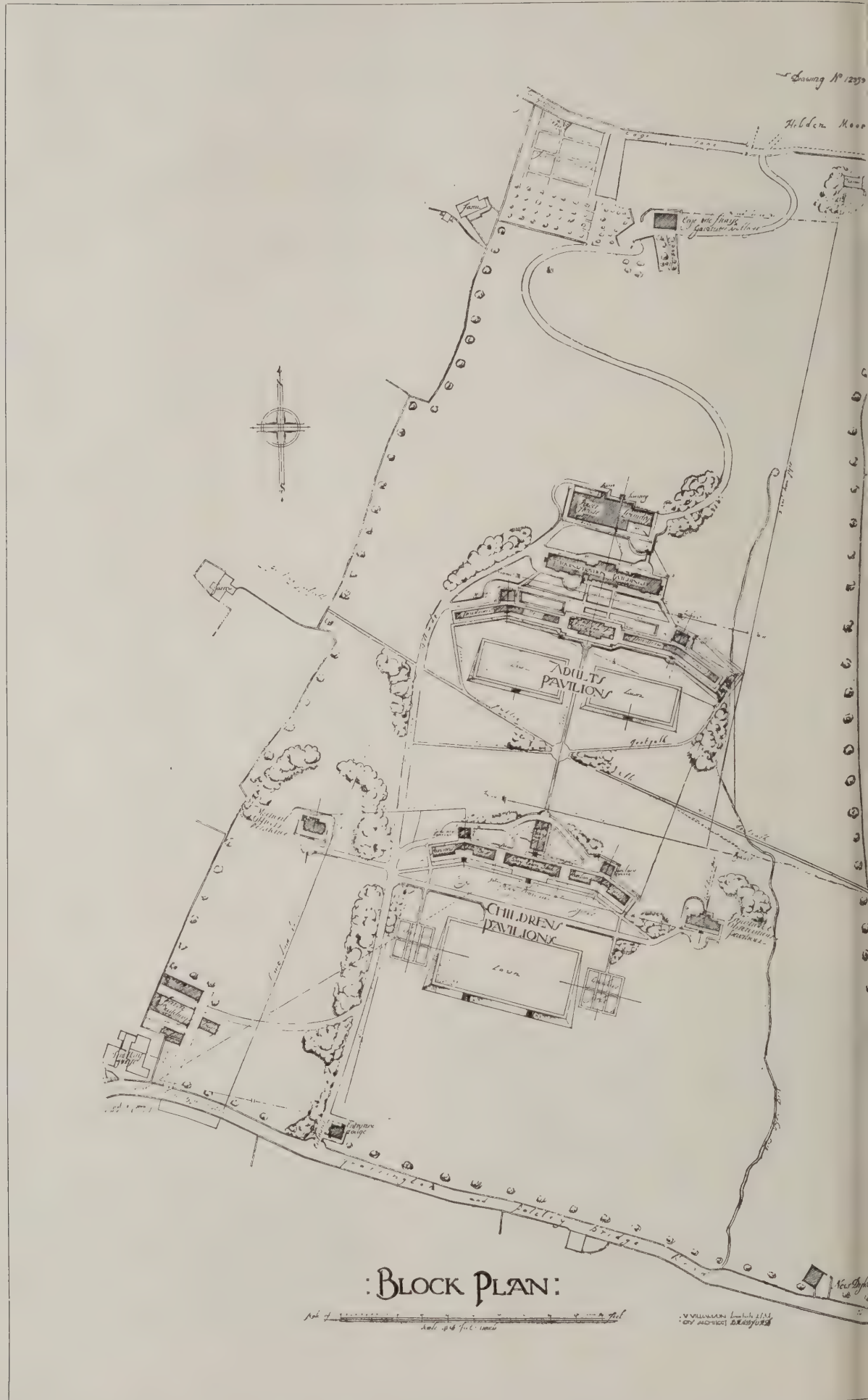
Fig. 21.

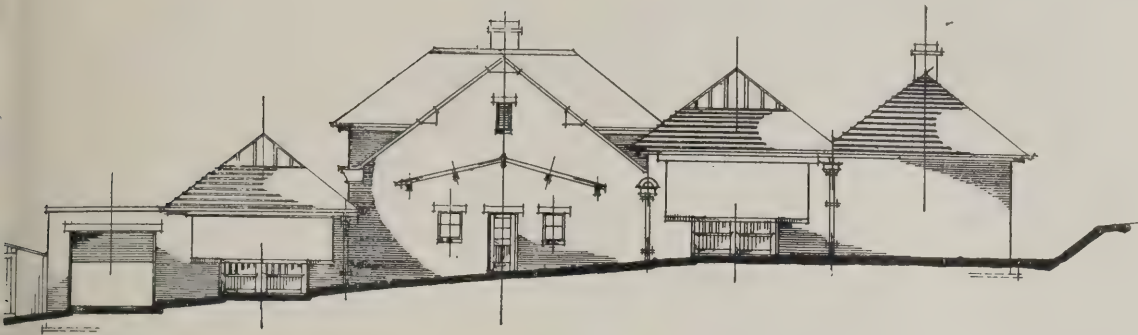


Fig. 22. Photos: Nathaniel Lloyd, O.B.E.

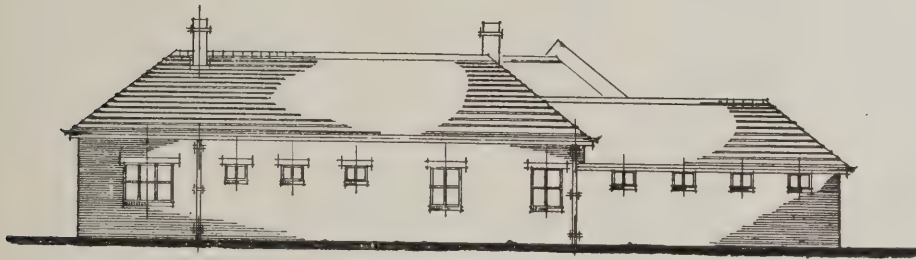
NATIONAL HOUSING SUGGESTIONS.

Architects of the 17th and 18th centuries attached a great deal of importance to doorways, and there are a large number of wooden doorways of this period still in existence. In many of the cottages doorways were the principal and central feature, and in the larger dwellings they were frequently carried up to the eaves of the roof. Figures 21 and 22 show two rather elaborate examples, and it is interesting to note the pleasing effect produced upon otherwise plain and uninteresting buildings.

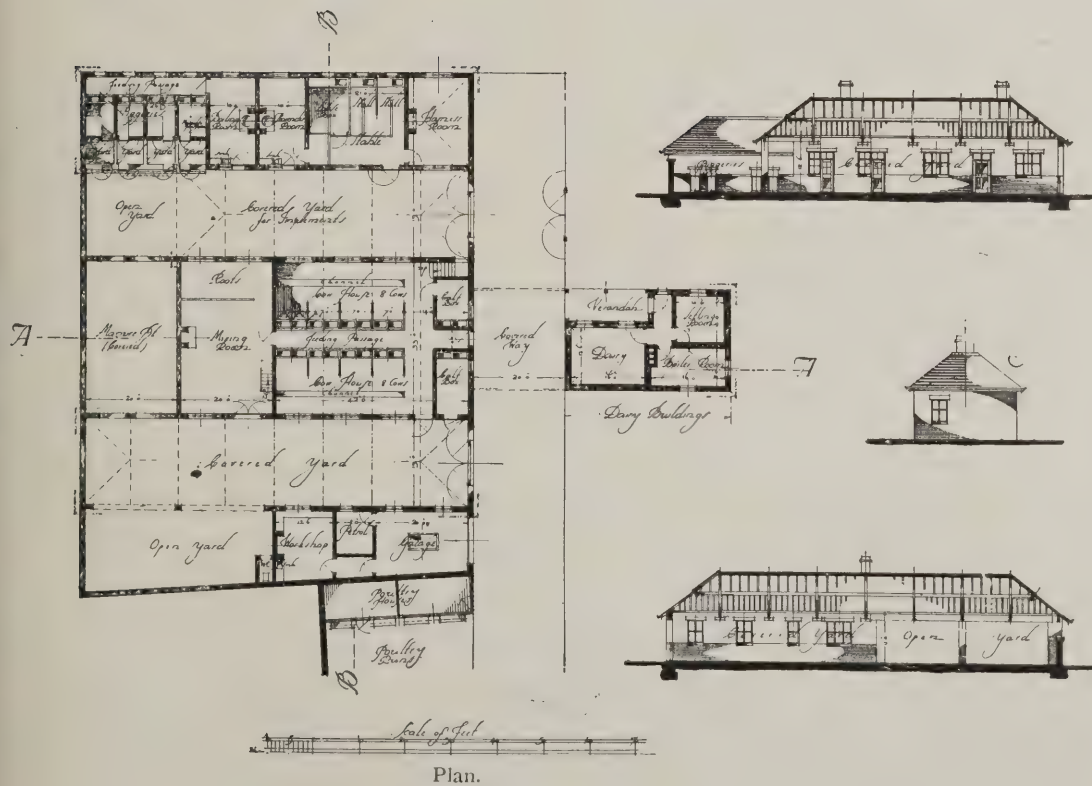




: EAST ELEVATION :



: NORTH ELEVATION :



An Analysis of Pre-War and Post-War Prices for Building Work*

By LIEUT.-COL. T. E. COLEMAN, R.E. SERVICES.

(Continued from No. 1284, page 214.)

Total Labour Costs.

has already been mentioned that over and above the direct increased rates of wages paid to workmen, it is now generally recognised that the ultimate cost of labour in the building trades has been very much affected by the decreased efficiency of labour itself as compared with the ordinary pre-war standard.

This labour inefficiency and reduction of output has gradually increased from year to year, with the result that, towards the conclusion of the war it was estimated at an average of not less than 20 per cent. of total labour cost.

The following table indicates the average pre-war and post-war rates of wages per hour in the London district for workmen employed in the building trades in August, 1914, and June, 1919, together with the estimated total percentage of increased cost of labour after making allowance of 20 per cent. for reduced efficiency and output of work as compared with that normally obtaining before the war.

TRADE.	Rate per hour.	Aug. 1914.	June 1919.	Net percentage of increase in labour rates.	Add 20% for reduced efficiency and output of labour.	Total percentage of increased labour cost.
		d.	d.	%	%	%
Excavator	11½	21	82.6	36.5	119.1	119.1
Concreteor	11½	21	82.6	36.5	119.1	119.1
Drainlayer	11½	21	82.6	36.5	119.1	119.1
Bricklayer	8	17	112.5	42.5	155.0	155.0
Mason	11½	21	82.6	36.5	119.1	119.1
Slater or Tiler	9	20	122.0	44.4	166.4	166.4
Carpenter	11½	21	82.6	36.5	119.1	119.1
Joiner	13	21½	79.2	35.8	115.0	115.0
Founder and Smith	11½	21	82.6	36.5	119.1	119.1
Plasterer	10½	19	85.7	37.1	122.8	122.8
Plumber	108½	204	895.0	378.8	1,273.8	1,273.8
Glazier	115.0	155.0	1	1	135.0	135.0
Painter and Paper-hanger	166.4	155.0	10	1	165.4	165.4
Average	1472.0	2015.0	—	—	1771.5	1771.5
Average	122.7	155.0	—	—	136.3	136.3

For example, we find that the labour rate for bricklayers has increased from 11½d. to 1s. 2d. per hour. Taking the increased rate as being 20 per cent. of 1s. 9d., or 4.2d. per hour, this gives a percentage of 36.5 per cent. increase on the pre-war cost of 11½d. per hour.

It will be seen that the total labour cost, compared with pre-war prices, shows an average increase of 127 per cent. for the trades.

For painters' work the total labour cost is approximately 166 per cent. above the pre-war cost, and for general labourers 155 per cent. For bricklayers, carpenters, joiners, masons, plasterers, etc., the present value shows an average increased labour cost of 119 per cent., whilst for plumbers' work the increased labour cost is about 115 per cent.

The percentage of increase which has taken place in the different branches of building labour since August, 1914, has been so considerably, it will be necessary to take into consideration the proportions of skilled and unskilled labour required for each trade in order to state the true percentage of increase in the respective trades. For instance, the proportion of the bricklayers' work for an ordinary building requires on the average of two bricklayers to one labourer. The approximate proportion in plumbers' work is one plumber to one plumber's mate or

labourer, whilst for plasterer's work the average proportion is two plasterers to one labourer when considering that trade as a whole.

After providing the average proportions of skilled and unskilled labour required for the execution of all the work appertaining to each of the building trades, together with an allowance of 20 per cent. for decreased efficiency of labour as compared with normal pre-war conditions, the percentage of increase in the cost of labour for each trade is approximately as follows:

TRADE.	Percentage of increased labour cost, including 20% for decreased efficiency.		Average proportion of mechanics and labourers required in each trade.		Average percentage of increase for labour in each trade, including 20% for decrease efficiency.
	Mechanics.	Labourers.	Mechanics.	Labourers.	
	%	%	No.	No.	%
Excavator	—	155.0	—	1	155.0
Concreteor	119.1	155.0	1	6	149.9
Drainlayer	119.1	155.0	1	1	137.0
Bricklayer	119.1	155.0	2	1	131.1
Mason	119.1	155.0	10	1	122.4
Slater or Tiler ...	119.1	155.0	2	1	131.1
Carpenter	119.1	155.0	6	1	124.2
Joiner	119.1	155.0	20	1	120.8
Founder and Smith	122.8	155.0	2	1	133.5
Plasterer	119.1	155.0	2	1	131.1
Plumber	115.0	155.0	1	1	135.0
Glazier	115.0	155.0	1	1	135.0
Painter and Paper-hanger	166.4	155.0	10	1	165.4
	1472.0	2015.0	—	—	1771.5
Average.....	122.7	155.0	—	—	136.3

The estimated percentage of increase in cost of labour for each trade—as compared

with pre-war conditions—varies from 121 per cent. for joiners' work to 165 per cent. for painters' work.

The average labour cost of digging and excavating has been increased by 155 per cent., and for plumbers' work by 135 per cent. The increased labour costs for bricklayers', slaters', and plasterers' work amount to 131 per cent., whilst the average increase for all trades is 136 per cent.

A representative schedule, showing the principal items of materials used in each of the various trades for ordinary building and engineering work is now given. The rates indicate the average prime cost or wholesale trade prices at the manufacturers' or merchants' London depot, yard, or river wharf on the dates mentioned. The percentage of increase in price on November 11, 1918, and June 28, 1919, are also shown for purposes of reference.

A comparison of the prices in the following schedule shows that a considerable increase has occurred during the war period.

During the prosecution of the war building materials generally were placed under Government control, both as regards the quantities available for any particular purpose and the prices at which they could be purchased. The whole of the stocks in this country, together with those imported from time to time, were practically commandeered for naval and military purposes, munition factories, etc. At the time the armistice was signed on November 11, 1918, only very small quantities of materials could be obtained for ordinary building purposes. For some time previous to that date the purchase or sale of bricks in

Wholesale Trade Prices for Building Materials at London Depot, together with percentage of increase as compared with current prices in August, 1914.

DESCRIPTION.	Quantity or Measure.	3rd Aug., 1914.	11th Nov., 1918.	28th June, 1919.
		Average Price.	Average Price.	Percent- age of Increase.
EXCAVATOR.				
Timber, Swedish, 3rd quality. Battens 3 in. x 7 in., plank, and strutting	Per Standard	£ s. d. 12 10 0	£ s. d. 48 0 0	% 228
Balks, Swedish common	Per load 50 ft. cub.	4 0 0	14 10 0	262
CONCRETOR.				
Gravel or ballast	Yd. cub.	0 6 0	0 11 6	92
Sand, Pit, clean	"	0 7 0	0 12 6	79
" Thames	"	0 7 6	0 13 0	73
Lime, Blue Lias	Per ton	1 1 0	1 16 0	71
Cement, Portland	"	1 16 0	2 18 0	61
DRAINLAYER.				
4-in. dia. glazed stoneware drain pipes...	Ft. run	0 0 4	0 0 8	100
6-in. dia. ditto	"	0 0 6	0 1 0	100
9-in. dia. ditto	"	0 0 10	0 1 9	110
Cement, Portland	Per ton	1 16 0	2 18 0	61
BRICKLAYER.				
Bricks, Flettons	Per M.	1 12 0	2 10 0	56
" ordinary stocks	"	1 14 0	2 15 0	62
" best stocks	"	1 18 0	3 5 0	71
" picked stocks for facings	"	2 5 0	3 10 0	55
" best Fareham red facings	"	3 10 0	4 12 0	31
" blue Stafford best	"	4 0 0	7 15 0	94
" white glazed best	"	13 0 0	18 0 0	38
" Stourbridge	"	4 10 0	9 0 0	100
Cement, Portland	Per ton	1 16 0	2 18 0	61
Lime, Blue Lias	"	1 1 0	1 16 0	71
" Grey chalk (ground)	Yd. cub.	0 12 6	1 3 0	84
Sand, Pit, clean	"	0 7 0	0 12 6	79
" Thames	"	0 7 6	0 13 0	73
Gravel or ballast	"	0 6 0	0 11 6	92
MASON.				
Stone in block, Bath	Ft. cub.	0 1 9	0 2 4	33
" Portland	"	0 2 4	0 3 3	39
" York	"	0 2 11	0 4 9	63
SLATER OR TILER.				
Slates, Countess Welsh	Per M.	13 0 0	22 0 0	69
Tiles, Broseley red	"	2 10 0	4 10 0	80

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DESCRIPTION.	Quantity or Measure.	3rd Aug., 1914.			11th Nov., 1918.			20th June, 1919.		
		Average Price.	Average Price.	Percent- age of Increase.	Average Price.	Average Price.	Percent- age of Increase.	Average Price.	Average Price.	Percent- age of Increase.
CARPENTER. IMPORTED TIMBER.		£ s. d.	£ s. d.	%	£ s. d.	£ s. d.	%	£ s. d.	£ s. d.	%
RED OR YELLOW DEAL.										
3 in. x 9 in. deals, 2nd quality	Per Standard	16 0 0	50 0 0	213	47 0 0	194				
3 in. " 3rd "	"	14 0 0	48 0 0	243	43 0 0	207				
3 in. x 7 in. battens, 2nd "	"	13 0 0	49 0 0	277	44 0 0	238				
Baulks, Memel or Dantzig, 2nd quality	Per load	12 10 0	48 0 0	284	41 0 0	228				
Ditto, Swedish, common	50 F.C.	5 0 0	15 10 0	210	14 0 0	180				
1 1/2 in. x 7 in. floor boards, wrot, edges	Per square	4 0 0	14 10 0	262	12 0 0	200				
1 in. x 7 in. ditto	"	1 0 0	2 19 0	195	2 9 0	145				
1 1/2 in. by 7 in. floor boards, wrot, ploughed, and tongued	"	0 17 0	2 7 0	176	1 19 0	130				
1 in. x 7 in. ditto	"	1 1 0	3 0 0	186	2 10 0	138				
1 in. x 7 in. ditto	"	0 18 0	2 8 0	167	2 0 0	122				
WHITE DEAL.										
3 in. x 9 in. deals, 3rd quality	Per Standard	13 0 0	48 0 0	269	43 0 0	230				
3 in. x 7 in. battens, "	"	12 10 0	48 0 0	284	41 0 0	228				
1 1/2 in. x 7 in. floor boards, wrot, edges	Per square	0 18 0	2 19 0	228	2 9 0	172				
1 in. x 7 in. ditto	"	0 15 0	2 7 0	213	1 19 0	160				
1 1/2 in. x 7 in. floor boards, wrot, ploughed, and tongued	"	0 19 0	3 0 0	216	2 10 0	163				
1 in. x 7 in. ditto	"	0 16 0	2 8 0	200	2 0 0	150				
ENGLISH HOME GROWN.										
Larch, rough, unseasoned	Ft. cub.	0 1 5	0 3 3	129	0 3 3	129				
Oak, "	"	0 2 3	0 4 10	115	0 4 10	115				
JOINER. IMPORTED TIMBER. RED OR YELLOW DEALS.										
3 in. x 9 in. deals, 2nd quality	Per Standard	18 0 0	51 0 0	183	48 0 0	167				
3 in. " 3rd "	"	16 0 0	49 0 0	206	44 0 0	113				
3 in. x 7 in. battens, 2nd "	"	14 0 0	50 0 0	257	45 0 0	222				
" 3rd "	"	13 0 0	48 0 0	259	42 0 0	223				
WHITE DEAL.										
3 in. x 9 in. deals, 1st quality	"	16 0 0	52 0 0	225	46 0 0	188				
" 2nd "	"	14 10 0	50 0 0	245	44 0 0	203				
3 in. x 7 in. battens, 1st "	"	14 0 0	48 0 0	243	43 0 0	207				
" 2nd "	"	13 0 0	48 0 0	269	42 0 0	223				
NAILS.										
Cut, clasp, 3 in. to 6 in.	Per ton	10 10 0	28 10 0	171	32 10 0	210				
" flooring	"	10 5 0	28 0 0	173	32 0 0	212				
GLUE.										
Best Scotch	Per cwt.	2 7 0	8 10 0	262	5 10 0	134				
FOUNDER AND SMITH. CAST IRON.										
Sash-weights	Per ton	6 0 0	10 0 0	67	12 10 0	109				
Pipes, ordinary socket, 3 in. to 6 in. dia.	"	7 10 0	13 0 0	73	16 0 0	113				
Ditto, 7 in. to 10 in. dia.	"	7 0 0	12 0 0	71	15 0 0	114				
Columns or stanchions, ordinary patterns	"	8 0 0	13 0 0	63	17 0 0	113				
WROUGHT IRON.										
Bar, round, square, or flat, common	"	8 0 0	16 0 0	100	19 0 0	138				
Ditto, Stafford marked	"	9 0 0	17 0 0	89	20 0 0	122				
Ditto, Yorkshire, best Lowmoor	"	23 0 0	41 0 0	78	45 0 0	96				
Plate, common girder	"	9 0 0	17 0 0	89	20 0 0	122				
Ditto, Stafford best	"	11 0 0	19 0 0	73	22 0 0	100				
Ditto, Yorkshire, best Lowmoor	"	28 0 0	51 0 0	82	55 0 0	97				
Sheets, black, Stafford	"	9 0 0	19 0 0	111	22 0 0	144				
Ditto, galv. corrugated, 5 ft. to 8 ft. long, up to 24 S.W.G.	"	13 0 0	30 0 0	131	33 0 0	154				
Hoops, black	"	9 0 0	20 0 0	122	23 0 0	156				
Ditto, galvanised	"	14 0 0	34 0 0	143	37 0 0	164				
STEEL, MILD.										
Bar, round, square, or flat	"	7 0 0	14 0 0	100	17 0 0	143				
Plate, boiler quality	"	8 0 0	15 0 0	88	18 0 0	125				
Rolled joists, ordinary sections	"	7 0 0	13 0 0	86	16 0 0	129				
Ditto, compound sections	"	9 0 0	17 0 0	88	20 0 0	122				
Stanchions, ordinary sections	"	8 0 0	14 0 0	75	17 0 0	113				
Ditto, compound sections	"	10 0 0	18 0 0	80	21 0 0	110				
PLASTERER.										
Sand, Pit, cleaned	Yd. cub.	0 7 0	0 12 6	79	0 12 6	79				
Ditto, washed	"	0 10 6	0 18 0	72	0 18 0	72				
Lime, white chalk (lump)	"	0 10 0	0 18 0	80	0 19 0	90				
" grey chalk (ground)	"	0 12 6	1 3 0	84	1 4 0	92				
Cement, Portland	Per ton	1 16 0	2 18 0	61	3 5 0	81				
Laths, fir, sawn	Per bundle of 500 ft. run	0 1 6	0 4 0	167	0 3 6	133				
PLUMBER.										
Lead, sheet, milled	Per ton	23 0 0	40 0 0	74	36 0 0	56				
Ditto, in service pipes, etc.	"	24 0 0	42 0 0	75	38 0 0	58				
Ditto, in soil pipes, 4 in. to 6 in. dia.	"	25 0 0	44 0 0	76	40 0 0	60				
Copper, sheet, bar, or rod	"	80 0 0	175 0 0	119	165 0 0	106				
Tin, in bar, etc.	"	150 0 0	360 0 0	140	285 0 0	90				
Spelter	"	25 0 0	60 0 0	140	48 0 0	92				
GLAZIER.										
Sheet glass, 15 oz., 3rd quality	Ft. sup.	0 0 21	0 0 7 1/2	233	0 0 8	256				
Ditto 21 oz.	"	0 0 3 1/2	0 0 8 1/2	154	0 0 8 1/2	169				
Ditto 26 oz.	"	0 0 4 1/2	0 0 9 1/2	130	0 0 10 1/2	141				
Ditto 32 oz.	"	0 0 5 1/2	0 0 10 1/2	95	0 0 11 1/2	109				
Fluted or obscured sheet glass, 15 oz.	"	0 0 3	0 0 7 1/2	150	0 0 7 1/2	150				
Ditto, 21 oz.	"	0 0 4	0 0 8 1/2	112	0 0 8 1/2	119				
1 in. rough rolled plate	"	0 0 3	0 0 7	133	0 0 7 1/2	142				
PAINTER.										
White lead, ground in oil	"	30 0 0	61 0 0	103	64 0 0	113				
Red lead, dry	"	28 0 0	50 0 0	79	48 0 0	71				
Putty (linseed oil)	"	9 0 0	26 0 0	189	22 0 0	144				
Oil, linseed, raw	Per gall.	0 2 6	0 8 6	240	0 10 9	339				
" boiled	"	0 2 9	0 9 0	227	0 11 3	309				
Turpentine	"	0 3 0	0 11 0	267	0 10 3	242				
Varnish, oak copal	"	0 11 0	0 18 0	64	0 17 0	55				
Ditto, carriage	"	0 13 0	1 2 0	69	1 1 0	62				
French polish	"	0 10 0	0 17 0	70	0 19 0	90				

quantities exceeding 20,000 was prohibited by the Ministry of Munitions except by special permit.

The sale and selling price of all imported timbers were controlled by the Director of Timber Supplies under the

Timber Control Order of 1918. Imported timber could only be purchased at docks on production of an order obtained from that department. Full particulars of the purpose for which it was required were called for, and the necessary authority could only be obtained for approved works. The Government control of timber was withdrawn on March 31, 1919.

All the supplies of iron and steel placed under the control of the Ministry of Munitions, and the prices fixed by that department. A certificate from the Director of Materials was required for the sale or purchase of sheet lead or lead in quantities exceeding 1 cwt. A similar certificate was required for the sale or purchase of all copper tin, solder, white red lead, etc., and only very small quantities of glass could be purchased without previously obtaining the necessary official permission.

It will be observed that the market prices of some materials have increased considerably during the armistice period as compared with war-time rates. For instance, bricks, lime, and cement have increased in value. In November, 1918, glazed stoneware drain pipes were at 100 per cent. above pre-war rates, but in June, 1919, they had risen to 130 per cent. The prices for timber generally have fallen since the removal of Government control; but, on the other hand, the prices of iron and steel is considerably higher. In August, 1914, the average trade price for wrought-iron bar was £8 per ton. In November, 1918, the controlled price was £16 per ton, and in June, 1919, the market price was £19 per ton, or a total increase of 138 per cent. over the pre-war price.

Linseed oil, although largely used by painters' work, is used to an enormous and constantly increasing extent in the manufacture of margarine and similar edible commodities. Owing to the war shortage of animal fats, linseed and vegetable oils are being used as substitutes. The demand for linseed oil, for food and painting purposes, is now greater than the supply. In August, 1919, the wholesale price of linseed oil was £26 per ton, as against £112 per ton in June, 1919, or an increase of 330 per cent.

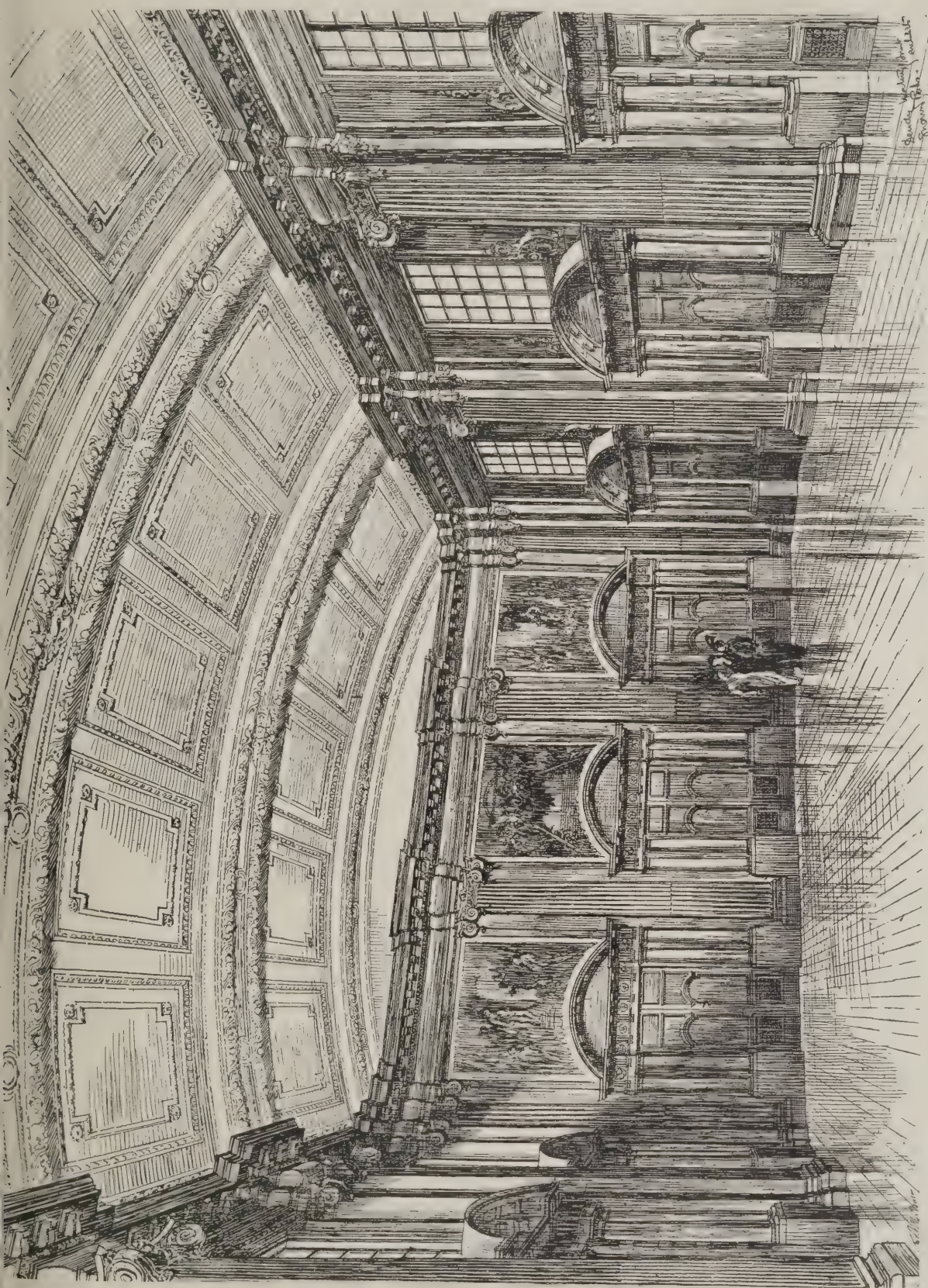
Imported timber advanced, roughly speaking, to between two and three times its pre-war price, or an average increase of 200 per cent. During the period of timber control, the relative values of inferior qualities of imported timber increased in price to a proportionately larger extent than the better brands. The prices of the better class timbers were, however, in many cases only nominal, and were not generally obtainable at the controlled prices under ordinary circumstances. Frequently the only timbers available of the inferior descriptions, for which comparatively high rates were charged.

Ordinary glass for glazing purposes costs from 150 to 250 per cent. more than pre-war prices, according to quality and weight. Painting materials, such as white lead, oils, turpentine, etc., vary from 100 to 250 per cent. above pre-war values.

Wrought iron and steel bars and sheets are from 90 to 130 per cent. higher, while sheet lead costs about 75 per cent. more. Sand and gravel have increased in price from 70 to 100 per cent., whilst bricks, lime, and cement are from 50 to 80 per cent. higher.

Bath and Portland stone in block show an increase of 30 per cent., while York stone has risen about 60 per cent.

(To be continued.)



LECTURE HALL, GRESHAM COLLEGE, LONDON, E.C.

SYDNEY PERKS, F.S.A., F.R.I.B.A., AND DENDY WATNEY, Licentiate R.I.B.A., ARCHITECTS.

Supply of Labour for Government Housing Schemes:

An Organised Public Service for the Building Industry

[R. JAMES STORRS, J.P., of Stalybridge, presided over the annual meetings of the Industrial Council of the Building Industry, held in the Institute of the Hampstead Garden Suburb last Thursday and Friday. Mr. G. White read the interim report of the Building Resettlement Committee on the supply of building labour for the Government housing schemes, from which the following extracts are made:

Labour for Housing Schemes.

On June 18 the Parliamentary Secretary to the Ministry of Labour addressed a meeting of the Building Resettlement Committee and informed the members that, in the opinion of the Government, there was danger of a labour shortage so great that serious delay might be caused to Government housing schemes. The Committee offered to examine the situation and to state the measures in their view most likely to meet the difficulty. Special meetings were held and the subject discussed in consultation with Dr. Addison, Sir Robert Horne and officials of the Ministry of Labour, the Ministry of Health, and the Scottish Office, and the following report drawn up:

The Committee was informed that there was a shortage of half a million working-class houses in the British Isles, to which must be added the normal demand of 1,000,000 a year. The Government had determined to erect 100,000 State-aided houses in England and Wales before May 1, 1920, and 10,000 in Scotland, and double these numbers in the year (July 1) following. To carry through the year's programme, the Ministry of Health and the Scottish Board of Health estimated that they would require 220,000 men. It was clear that the date on which the demand would become effective depended on the progress of the schemes. Actual building could hardly be said to be begun. Only 330 applications for house plans, covering 12,457 houses, had been approved by the Ministry of Health. On the other hand, sites had been submitted for approval providing for 370,000 houses, and there was reason to believe that local authorities would become more active. With regard to the supply of building materials, the Committee were assured that the stocks held by the Ministry of Munitions would keep pace with any probable progress of the schemes, so that the delaying factor would be difficulties of transport. On these facts it did not seem possible to reject the estimate of 1,000,000 houses in the first year, and the Committee approached the problem with a view to assist the Government in carrying out the programme, while at the same time safeguarding the legitimate interests of the building industry.

To ask for 220,000 men to build the houses (including the lay-out of sites, laying of roads, etc.) meant two men per house per year, a figure considerably greater than that before the war. The proposed houses would contain larger areas, more plumbing would be required, masons' work would be of better quality than done on the spot, and there would be party walls. The Committee were satisfied that the Government estimate was all one, although the full force of the demand would not be felt for some time.

Building labour could be roughly divided into five classes: (a) Men now engaged on building work, (b) men describing themselves as building workmen and now unemployed, (c) men still in the Army, (d) men who left the trade for other employment during the war, (e) men who left the trade for other employment before the war. All the sources of supply were examined in the hope of finding that the men required for housing would be available, either through release from the Colours, through being transferred from private work, or from building in connection with munitions contracts, to housing, or through some method by which men who had left the trade could be attracted back to it again. Owing to artificial checks on building during the war, enlistment of half the workmen in the trade, and the immense changes in the distribution of wealth and the nature and processes of manufacture in this country, there was likely to be from private sources a demand for building, other than for housing, greater than any this country had ever known. Owing to industrial uncertainty, to the uncertainty felt by individuals as to their own movements, and to the very high prices of labour and materials, this accumulated theoretical demand had been slow in becoming effective. Between November, 1918, and April, 1919, there was a period of inactivity, but during the last three months the reserve of unemployed labour had dwindled so rapidly that it was now as low as in the best years before the war. Large contractors who six months ago reported a general lack of confidence and absence of contracts were now everywhere busy and, in a number of cases, were refusing contracts. There seemed also to be a general feeling that private work was more interesting, more profitable and less attended by unsatisfactory conditions than the work under the housing schemes. From the men's point of view the work would not need great skill and would be performed under conditions involving more or less discomfort. Instead of housing schemes appearing as the one hope of an unemployed trade, they must stand against severe competition, and there seemed to be a direct pull both of interest and inclination in favour of commercial as against this class of work. The Committee felt that unless this attraction can be more than counteracted, or some forcible measure such as priority adopted, there could be no certainty that any of the men employed in the building trade would be released for, or turned over to, housing work.

For the same reasons little reliance could be placed on the 27,000 building men, about 9,000 of whom were skilled, who were at present shown as unemployed. This figure included a number of unemployables as well as men scattered in remote country districts, and it was falling week by week. The housing authorities should take 10,000 as the maximum number of unemployed men likely to be available or of much use to them. Not even an approximate estimate could be made of building men with the Colours who had not re-enlisted. The figures by the various departments show discrepancies so great that no reliance could be placed on them. The Building Unions were being asked for more detailed

figures, and to supply figures which would make a more accurate estimate possible. The Committee, however, decided to hazard an outside estimate of 80,000 as the men who might be expected to be released before May 1, 1920, pointing out that there could be no certainty that these men would go to the houses rather than to other work.

The men who went to munitions and similar work after the war started were the more likely to come back. There should be a flow of labour from the aircraft works. The Committee are of opinion that the bulk of the men who wish to return had already done so, and that those firmly settled in other occupations were not likely to return. Assuming that the trade of the country remained in a condition no further from normal than at present, it was, with one important exception, not likely that any large number of men would be tempted back to it unless an effort was made to render the conditions of the work more attractive. The knowledge that there was steady work to be had, and the ordinary ebb and flow of employment might very probably, however, prove sufficient inducement to a few thousand, to which the Committee fixed a maximum of 5,000. The exception to which reference had been made was the stonemasons. This was a declining trade, and an estimate had been given that 7,000 or 8,000 men had left it who would return if work were available. The result of the inquiry was, therefore, roughly, that if every available man not now actually employed on building work (including those expected to be released from the Army) took up work on the housing schemes there would still be a deficit of over 100,000 men.

Many methods were suggested by which this deficit might be made good. The method of admitting and training labour brought in from outside the trade was the last method which should be considered in the interests of the building industry and on account of the opposition it would provoke. Labour brought in would be useless during the very period when the greatest output was needed. Before any such measure was taken every effort should be made by adjustments which, though inadequate singly, would have considerable cumulative effort to utilise and make more productive the existing labour. The first step was to secure the best distribution of the men, and the Committee recommended that schemes be so arranged that the men can work with the firms to whom they are accustomed, and as far as possible in their own localities.

The almost exclusive use of one medium, i.e., brick, for schemes in every part of the country, lead to labour being neglected which could be tapped if a greater variety of materials had been used. The outstanding instance of this was the stonemasons. Certain classes of these men were able to build in brick. The Committee do not think the shortage of bricklayers should be accentuated by the use of this material in districts where stone quarries were close at hand, and where the importation of bricks would add to the already serious strain on transport facilities. The same considerations held true in a lesser degree of other subsidiary materials. If the local representatives of the trade in the stone districts could be

consulted it would be found possible to erect stone buildings at a cost not materially exceeding that of imported brick. This was a duty which might be allocated to local production committees set up to advise the Housing Commissioners. The Housing Commissioners for England and Wales and the Housing Authority in Scotland should be asked to assign definite duties to the local production committees; among those duties should be allocated the question of preference to be exercised in using local materials in their various districts (such as stone, brick, or concrete, home-grown timbers, roofing materials, etc.).

Schemes which could otherwise be pushed forward were being held up by lack of railway waggons and other transport difficulties. Every effort should be made to provide new railway trucks, to expedite the return of trucks from France, and to reorganise the present traffic system. This process, they believe, would be greatly facilitated by an increase in the railway staffs.

With regard to the best means of persuading contractors to use some part of the labour at their command on the housing schemes, the Committee made the following recommendations: (1) That, wherever possible, instead of the present system of tenders a fair price per house should be fixed by each authority in consultation between the Quantity Surveyor and members of the Building Trade Association (or Federation) and, if desired, the building unions, and that the work should then be distributed by the Association (or Federation) among its members, arrangements being made for seeing that outside firms who desired to come in were able to do so on fair terms. (2) That in England and Wales the model form of contract now being drawn up with the Ministry of Health, and in Scotland the form drawn up under the Scottish Building Code, be made obligatory in all State-aided schemes. (3) That quantities must be supplied by a qualified quantity surveyor. (4) That no sureties or deposit in any form should be required from contractors entrusted with the housing contracts, as now required by the Public Health Act.

There could be no doubt that any revival of enforced priority would be unpopular, both with the trade and the public. It was at best a rough-and-ready method which secured some sort of labour supply, but could not be expected so to distribute the men that their full capacities were made use of. The Committee did not believe that the building industry would acquiesce in a policy which seemed to cast a slur on its independence, initiative, and power of expansion. They hope that there would be no need to have recourse to such a method, but they point out that the housing schemes were more important than certain types of private enterprise, and that if other means fail it might be found necessary to give them precedence. In this case the Committee recommend that the system selected be drawn up in consultation with the building trade.

The first step towards increased output was to assure that proper use was made of economising work by standardisation of appropriate items. So far as it was possible this had been done. A statement should also be made to the building trade operatives through their unions, which should lay the facts as to the building requirements before the men, and appeal to them to use their best endeavours in the service of the State. With regard to apprentices, the

Committee state that for five years the normal flow of young labour had stopped, and they hope it may be found possible, not merely to attract the usual number of lads to the trade, but by raising the age limit and making other special arrangements, to secure at once a source of skilled labour on which the trade would be able to count to a certain extent in three years' time. This method would not provide an unlimited supply, and the Committee doubt whether it would meet the present situation. The Committee were further convinced that any other form of augmentation necessary should be agreed upon with the Committee. With such a safeguard, the workmen's prospects of employment would not be prejudiced. The Committee wish it to be understood that these are only interim recommendations, and that they would be glad to consider the question in greater detail if the Council so desire.

Mr. R. Wilson, chairman of the Resettlement Committee, moved the adoption of the report. Mr. T. Graham seconded, and the report was adopted. An amendment that the report be referred back for further consideration and report in three months' time was defeated.

Mr. J. H. Cantrill (of the National Decorators' Federation) then read the report of the Education Committee. Mr. I. H. Cox, presenting the first report of the Safety and Welfare Committee, which contained proposals with regard to the safety of woodworking machinery, asked the Council to adopt it so that Parliament could be petitioned with a view to legislative action. The reports were adopted.

Mr. Thomas Foster (chairman of the Industrial Council for the Building Industries) presented the interim report of the Committee on Scientific Management and Reduction of Costs, appointed by the Industrial Council for the Building Industry, the recommendations of which were as follows:

A Public Building Service.

The Committee considered it essential that the whole productive capacity of the industry should be continuously engaged and absorbed, and that a regular flow of contracts should replace the old haphazard alternations of congestion and stagnation. The Committee recommend: (a) That the Industrial Council shall set up a permanent committee entitled the Building Trades Central Employment Committee, with the necessary clerical staff. (b) That each regional council shall similarly set up a building trades regional employment committee. (c) That each local or area council shall similarly set up a building trades area employment committee. (d) That each committee shall consist of an equal number of employers and operatives with one architect appointed by the local professional association of architects, or by the R.I.B.A., as may be most appropriate. The first duty of these committees would be to regularise the demand for building; at the approach of slack periods, by accelerating new building enterprises, both public and private, with the co-operation of architects and local authorities; conversely, at periods of congestion by advising building owners to postpone the construction of such works as are not of an urgent character. Except where modified by special arrangements, the central, regional, and area employment committees should co-operate with the appropriate State, county, or district authorities. The fullest possible co-operation with the Government and local authorities is con-

templated at every stage. Such a scheme would involve some measure of restraint upon individual employers, and the non-federated employer would be an obstacle to its ordered working, but combined pressure by the Industrial Council or its constituents should eventually overcome this obstacle. Such spreading of work from year to year and season to season will not solve the whole problem, providing a steady stream of work. The second main function of the local employment committee should be the decasualisation of labour, for the difficulty of providing employment during wet and cold seasons had to be faced. The Building Trades Industrial Council should approach other industries and public authorities, investigate the possibility of "dove-tailing" or seasonal interchange of labour. A large volume of work could be undertaken with the industry could not usefully employ its available labour, for example, Afforestation, road-making, preparation of sites for housing schemes, and the demolition of insanitary or condemned areas, preparation for improvements.

The overhanging fear of unemployment must be finally removed before the optimistic could be expected wholeheartedly to give of his best. Provision should be made by the industry itself adequately to maintain the operative and his family during any period of unemployment arising from causes outside his control. Termination of employment upon any job should be subject to one week's notice (except in case of a strike or lock-out), and the local employment committee should be immediately notified of such approach to terminations, and also of all vacancies occurring. The machinery for filling vacancies already exists in the trade union organisation, and should be developed to the greatest possible extent in order to supplement the state employment exchanges so far as the building industry is concerned. In cases of unavoidable unemployment, the maintenance of its unemployed members should be undertaken by the industry through its employment committees, and the necessary revenue should be raised by means of a fixed percentage on the wages bills and paid weekly to the unemployment committee. The rate of percentage could be fixed by the Industrial Council, and the collection of the revenue should be carried out by the employment committee. The payments should be made by periodical refund to the unions, who would become an important integral part of the official machinery and would distribute the unemployment payments in accordance with the regulations prescribed by the Industrial Council and its committees.

Every duly registered member, who is prevented from working at the profession at the full standard rates of the district, should be entitled to unemployment pay, in all cases the amount being inclusive of any benefit under State and trade union schemes. Every registered member should be entitled to one week's summer holiday pay annually, at the same scale and from the same fund as the unemployment pay. During unemployment all men should receive half their full wage, supplemented in the case of a married man by one-tenth of his full wage for his wife and each of his children up to four or sixteen years of age. Then two essential conditions must be fulfilled. (1) That workers by more concentrated effort must increase efficiency beyond the present

dard; and (2) management and capital consent to a limitation being imposed on their earnings and should be prepared to adopt methods on their part which lead to greater output. It was hoped this scheme would finally relieve employers of their liability under the Workmen's Compensation and the Employers' Liability Acts, and supersede all trade sickness and unemployment benefits, that the industry would ultimately be in powers to contract out of the State aid. The benefits of such a scheme would have a material effect in inducing employers and operatives to come into their respective associations. The salaries management might first be ascertained from each "employer manager" declaring the salary he had received or what he regarded as his due. These declarations would be periodically reviewed by the employment committees appointed under this scheme, the first review to ascertain data for possible revision in order to develop a recognised standard of remuneration for the capital invested in the building industry and registered annually after it should receive a limited but guaranteed rate of interest, bearing a definite relation to the average annual yield of the remunerative Government stock. The fixing of the ratio would have to be decided out by further investigation, but, once determined upon, the guarantee would apply to all firms in the industry, so that where failure to earn the rate was ascertained by the committee on the advice of the auditors to be due to incompetent management. The surplus earnings of the industry should be publicly declared yearly, and accompanied by a schedule of services to which the money had been applied. These earnings should be held in trust by a National Joint Committee of the Building Trades Industrial Council, and would be applied to the following services, which would be developed under the control of the industry as a whole: (1) Guarantee of interest on approved capital, (2) loans to firms in the industry for purposes of development, (3) education and research in various directions for improvement of the industry, both independently and in co-operation with other industries, (4) superannuation schemes for the whole registered personnel of the industry, (5) replacement of approved capital lost through no fault of management, (6) such other purposes as may be thought desirable.

The development of the industry should be kept under constant review by the employment committees, and these committees should periodically notify the trade associations as to the number of new members who may apply for registration under the employment scheme, after a suitable trade or evidence of previous service in the industry.

Trade unions should establish waiting lists, and the periods of waiting should be utilised for technical training approved by the Building Trades Industrial Council. Funds should be made from the development of new firms conducted by private enterprise. New private enterprise should always provide its own initial capital.

A simple but generally applicable scheme of costing and accountancy was not essential but possible; and the Building Trades Council should promote a scheme or schemes which will fulfil the conditions of simplicity—i.e., not too unduly or detailed to be available and usefully prompt results, elasticity, accuracy. The industry should endeavour to place

such a scheme upon a proper footing, for without proper accountancy their recommendations would be of no avail. Improvement in managerial or office routine was of itself not sufficient. Whatever mechanical readjustments were adopted, the greatest increase of production would come from mutual esteem between management (in the wider sense including foremen) and operatives. The consensus of the evidence led the Committee to the following additional recommendations: (a) That there should be more inducement to the most talented operatives to increase their efficiency and to undertake positions of greater responsibility. (b) That every care should be taken, especially in subcontracting work, to provide a sufficiency of plant. (c) That production can be considerably increased by organising the position of scaffolding and the disposition of material in order to arrange a continuity of employment for the ultimate handler of the material. It is better for the material to wait for the men than the men for the material. (d) Workshops should be specially built or adapted for the purpose in view, and should contain the best devices for ensuring the easiest possible manipulation of material. (Very strong criticism was directed against many of the existing workshops, which were considered quite unfit for the nature of the work to be carried out in them.) It is clear that a detailed study of processes and a variety of experiments would afford in many cases considerable increases in output. (e) A better output would be obtained if the personal comfort of the operatives were provided for by better canteens, sanitary arrangements, etc., whether at the works or on jobs. Where such facilities are provided, the operatives should make fuller use of them.

The Committee realised very strongly the value of useful suggestions by the operatives and recommend that this could be best utilised by the establishment of works committees, upon which management and labour might interchange their specialist knowledge and discuss questions of mutual interest. Other benefits would undoubtedly accrue. The value of joint organisation would be brought more home to the whole of the employers and operatives alike, and thus the work of the Building Trades Industrial Council would be more appreciated in all localities and workshops. Five of the members of the Committee, while agreeing with some of the proposals, did not see their way to sign the report without important reservations.

Mr. T. Foster said that they might have spent longer time in elaborating proposals, but for reasons of procedure the Committee desired to present certain general principles. Urgency demanded the presentation of new ideas and new motives, and the narrowness of vision of both employers and workmen had hitherto precluded all discussion outside mere money wages and working hours. During the fifteen months of their coming together they had discussed minor problems, whilst all the time there had been the growing clamour outside their meetings, caused by high costs and their consequences. The workman, realising that beside a system of mere wages he could become no better off relatively, and he was suspicious when he saw the large profits there all the time. While this feeling remained, goodwill was impossible. Hence the proposals of the Committee that industry should be put on such a basis as to effectively remove this cause of unrest. Under this proposal the management would have all the old incentives, except

the selfish one of profiteering, and would in a newer and greater sense be leaders of men in essential public service. The scheme, as outlined, involved a great measure of joint control. It was impossible to revert to the old Guild system actually, but they could try to restore its spirit. And as the Guilds had their charters, it might become necessary for the building industry to get statutory powers to enforce membership and observance of essential regulations. They demanded a high standard of conduct from the workman. The Committee agreed it could be obtained—but at a price. That price was the concessions that employers were asked to give by adopting the report. The claims of the nation demanded that this price be paid.

Mr. Cross seconded the adoption of the report.

Mr. S. Smethurst said that whilst there were many things in Mr. Foster's speech with which they as employers would agree with, the report contained some things only taken for granted. It was too large a thing to rush, and if it were rushed it would sure to be a failure. He contended that the scheme, if carried, would harm the manual worker. He therefore moved the following amendment: "That the Council receives the report, but, before taking any action thereon, requests the Committee, augmented, to go into and report on: First, the question of the effect upon production the proposals will have if carried into effect.

"And to inquire whether all classes of the community will not be benefited and best served by maintaining our present competitive system of carrying on enterprise and industry unhampered by a paralysing control. And if it is also not true to say it would produce the best results for the nation with the least waste of labour and effort.

"Also to inquire if it is not the fact that the best interests (as far as material things are concerned) of all classes in the community will be best secured by everybody producing to their utmost capacity, consistently with not suffering physical harm; and, conversely, if it is not a fallacy to assume that the real interest of any large class can be served by limiting production; and further to inquire whether any large class has not had a fair share of the produce of their industry, and if so to report on the best means of providing a more equitable way of remedying such unfairness.

"And to inquire how far a limitation of output, by creating scarcity, is responsible for the present high prices of the commodities in common use; and whether such high prices, although being of no advantage to the worker, may not put in jeopardy our overseas trade, upon which the very life of the nation depends."

Mr. R. B. Chessum seconded the amendment. After discussion, the amendment was put to the meeting and lost.

Another amendment that the report be further considered by the Committee was eventually carried.

When the Council resumed its conference on Friday, Mr. Thomas Graham, of Edinburgh, called attention to the delay in the new housing scheme and pointed out that two Departments were dealing with the scheme—the Ministry of Health, which looks after construction and design, and the Ministry of Supply, which had to do with the material. Difficulties occurred as a result of this dual control. In Edinburgh there had been considerable delay with regard to one of the schemes which the Corporation had decided to proceed with.

QUESTIONS IN PARLIAMENT.

Cement Imports.

On August 11 Mr. Bridgeman was asked by Captain Wedgwood Benn whether he was aware of the difficulty that had arisen with regard to building on small holdings in Scotland and of the fact that cement showed a 100 per cent. rise in price, and other building materials similar or greater increases, and whether the Government would now permit the free import of cement and other building materials, replied: I am informed by the Secretary for Scotland that the facts as to prices of materials given in the question appear to be correct. The maintenance or modification of the restrictions is under consideration.

Colonel Wedgwood (Newcastle-under-Lyme, L.): Is not cement being prevented coming to this country in the interests of shareholders in cement companies?

Mr. Bridgeman: As a matter of fact, it is not prevented more than other materials.

Mr. Holmes (Derbyshire, N.E., L.): Is the hon. gentleman aware that the price of cement has gone up 3s. a ton during the last three days?

Mr. G. Balfour (Hampstead, C.U.): And that the scarcity of the material is keeping people out of employment in this country?

No answer was given to the last questions.

The Cenotaph.

On August 14 Sir A. Mond, replying to Lieutenant-Colonel Raw (Wavertree, C.U.), who asked if he would consider the advisability of erecting the permanent memorial to our glorious dead on a site in Parliament Square on account of the danger to the public in having such a memorial in a crowded and busy thoroughfare, said: As the Government have already decided to reproduce the Cenotaph in permanent material on the same site the answer to this question is in the negative; but I may add that the question of public safety has already been considered in conjunction with the Commissioner of Police, and no danger to the public is anticipated. The Westminster City Council have, I understand, also agreed not to oppose the Government decision.

Major Birchall (Leeds, N.E., C.U.) asked whether steps would be taken to secure that a Christian inscription should find a place on the Cenotaph.

Sir A. Mond said that if the hon. member had any suggestion to make with regard to the inscription it would, of course, receive careful consideration.

In reply to a supplementary question as to whether, seeing that a large number of Mussulman, Hindu, and Jewish soldiers had given their lives during the war as well as Christian soldiers, it would be not advisable to include in the inscription some words to this effect, Sir A. Mond said that that question would be considered, as would also the question of whether the word "our" should be substituted for the word "the" in the inscription.

Mr. MacVeagh (Down, S., Nat.): Will the right hon. gentleman have regard to the fact that war has nothing whatever to do with Christianity?

No answer was given.

House of Commons Improvements.

On Aug 14 Sir J. Agg-Gardner (Cheltenham, C.U.) asked the First Commissioner of Works if, in view of the constantly increasing strain on the resources of the House of Commons kitchen, he would instal during the recess the new cooking apparatus purchased in 1915, and the new

service lifts for which provision was made in the Estimates of 1914-15 and 1915-16.

Sir A. Mond: To instal a new cooking apparatus requires a large amount of structural alterations, which cannot be carried out in the coming recess. The installation is part of a much larger scheme which was stopped owing to the war, and which must be reconsidered under present conditions. The same consideration applies to the second part of the question, but the existing lifts will be overhauled during the recess to render them more efficient.

WEEKLY HOUSING RETURN.

The report on housing progress issued weekly by the Ministry of Health states:

The number of new schemes received by the Ministry during the week ended August 9 from local authorities and public utility societies was 208. The total number of schemes submitted was 4,003, representing an area of nearly 42,000 acres. At the average rate of ten houses to the acre, this area is sufficient for about 420,000 houses. The area covered by the new schemes amounts to just over 1,000 acres. The largest scheme of the week is promoted by the London County Council. The site of 147 acres which the County Council propose to buy is on the Dover House Estate, at Roehampton. Another London scheme is promoted by the Fulham Borough Council, who propose to acquire just over 40 acres a part of the ground at present occupied by the Hurlingham Club. The Tottenham Urban District Council propose to purchase 68 acres for housing in their district. Derby Corporation have the distinction of being first to make use of the provision in the new Housing Act enabling a local authority to take over houses erected or proposed to be erected by private enterprise. The Derby Housing Company, believing that the local authority would not be able to erect houses so soon or so cheaply as themselves, propose to build 114 houses, which, when completed, will be purchased by the Corporation. The proposals have been placed before the Ministry of Health, and actual operations on the site were to have commenced last week. The Ministry are sanctioning, as a temporary measure, the purchase by the Eastbourne Corporation of brick Army huts to be used as dwellings. The proposals are to acquire forty-two huts, each hut to hold two families. The huts will be adapted so as to provide two bedrooms and a living room for each family. Partitions will be erected of concrete slabs up to eaves level and matchboarding above. The huts are fitted with electric lighting, and portable coal cooking ranges are to be provided.

Details of local authorities' schemes dealt with during the week are as follows:—

Building Sites.

Schemes Submitted.—The number submitted by fifty-six local authorities was 207, bringing the total number of schemes to 3,944, covering about 41,300 acres.

Schemes Approved.—Forty-four schemes were approved, representing 433 acres. This brings the total number of local authorities' schemes approved to 1,154, representing approximately 16,250 acres.

Lay Outs.

Schemes Submitted.—Forty-one schemes were submitted by thirty-three local authorities, bringing the total number of schemes submitted to 643.

Schemes Approved.—Sixteen schemes, submitted by thirteen local authorities, were approved, bringing the total number of schemes approved to 281.

House Plans.

Schemes Submitted.—Twenty schemes, representing 813 houses, submitted by seventeen local authorities. This brings the total number of authorities' schemes submitted to 36, representing 19,915 houses.

Schemes Approved.—Eight schemes, representing 263 houses, were approved, bringing the total number of schemes approved to 197, representing 12,873 houses.

CORRESPONDENCE.

R.I.B.A. and the Superintendent Architect of the London County Council.

SIRS,—A well-known literary man recently said that he knew of no profession in which professional etiquette was so low a level as it is among architects. The Bar all men are considered equal, that principle is strongly maintained by the judges and the leaders of the Bar. "The Times" a letter was published July 28, signed by the president and president of the R.I.B.A., which, to the words of the Rev. L. Scott Lister, L.C.C., "recommended the second date and not the first," and each candidate was a member of the Royal Institute of British Architects! All men who value the position of the profession in the eyes of the world must thank you for the dignified protest on page 166 of your publication of the 6th inst. F.R.I.B.A.

Architectural Assistants and Competitions.

SIRS,—The following case has recently been brought to the notice of my committee, and we are of opinion that, in the interest of the profession generally and the assistant in particular, whose integrity we have the honour to safeguard, the matter calls for publicity.

A certain town, which for the present shall remain unnamed as we have not finished with the affair, instituted a competition, one of the conditions of which that all competitors must be "architects carrying on business in—," obviously with the intention of confining it to men. The assessor made his award, which was published, and the second prize was given to a member of our union. It happened, however, to be in the knowledge of a certain local official that the gentleman was an assistant, and the Council accordingly disqualified him, as far as he was concerned, quashed the award on the ground that he was not "an architect carrying on business," though he fulfilled the qualification of belonging to the town.

My committee is of opinion that to put the case mildly, grossly unfair, and we hope that publicity will prevent a recurrence.

One saving grace of competitions is that they enable the young and unknown to show his worth and obtain commissions that would not otherwise come his way, and we believe you will agree that a condition, or interpretation of a condition qualifying an assistant is unjust and illegal. It is probably well within your memory, and those of your readers, recent competitions for two very large important buildings not yet completed to men not at the time established in practice for themselves.

CHAS. McLACHLAN, A.R.I.B.A.
Hon. Secretary,

Architects' and Surveyors' Association,
Professional Union,
34 and 35, Bedford Square, London W.C.1.

The Week's News from Far and Near

New Houses for Fareham, Hants.
It has been decided to erect one hundred in the rural district of Fareham,

Twenty-storey Church for New York.
The York Christian Scientists are building a twenty-storey church to cost £100,000.

Dulwich War Memorial.
It has been decided to erect a pulpit in St. Martin's Church, West Dulwich, as a memorial to those from the parish who fell in the war.

House of Remembrance for Chatham.
Improvement is on foot at Chatham to lease the estate known as "The Sands," upon which to erect a hall, to commemorate local residents who fell in the war.

London Church Restored.
The church of St. Edmund the King and Martyr in Lombard Street will be reopened on October 1, when the Lord Mayor, and his wife will attend in state. The church was damaged in one of the air raids.

Proposed Clock Tower for Stockwell.
It has been decided to erect a clock tower at Stockwell as a permanent war memorial. A triangular site is proposed at the corner of Clapham and South Lambeth Roads.

Cardiff Architect's Will.
Colonel Edwin Montgomery Bruce, V.D., of Newport Road, Cardiff, 1st, chairman of the House Committee of King Edward VII.'s Hospital, died recently at the age of sixty-two, leaving an estate of £250,000.

Castle as War Memorial.
The old castle at Colchester is to be preserved to the town as a war memorial, and the hospital is to be enlarged by a block of buildings to commemorate the many escapes Colchester had from air raids.

Pontefract Housing.
The Pontefract Corporation have advertised tenders for the erection of 122 houses comprised in their No. 1 scheme, covering a site adjoining the military barracks. The tenders total £83,685, which is £686 per house, exclusive of the cost of land, sewers, roads, and fences.

Architect's Change of Address.
Mr. Denis M. Wilson, architect, has removed his practice to 17, John Street, Bedford Square, London, W.C.1, and at Riverside, Harpenden, Herts. During the war he was at the front of Mr. Wilson, his old office was commandeered by the Austro-Hungarian Government.

Cottages for Kent.
The County Council has received an offer for the erection of four six-roomed cottages for the married staff of the County School. The estimate of the cost of erection is £3,500, there being no charge for the site, as it was proposed to build on the Council's own land.

Green and Southgate Hospital.
The Wood Green and Southgate Urban Sanitary Authorities are jointly considering a plan for the establishment of a general hospital at an estimated cost of £120,000. The district, with 100,000 inhabitants, is at present served by one small cottage with thirty beds. It is proposed

to convert the present block into nurses' and administrative quarters, and to erect a new block of wards, out-patients' department, and resident medical officer's quarters.

Working Housing Scheme.
It was stated at the monthly meeting of the Woking Urban District Council that plans of the housing schemes were continually being approved by one Government department and then disapproved by another, whilst the flood of instructions greatly impeded the work. Eight plans were awaiting confirmation.

Cottages for France.
The French Government has laid before Parliament a Bill authorising the Minister of Finances to place, by way of loans, a sum of £20,000,000 at the disposal of institutions, societies, and companies whose special object is to provide cheap and comfortable houses for the working class. The interest paid will be 2 per cent.

Montgomery War Memorial.
Lord Powis attended a meeting, over which the Lord-Lieutenant of Montgomeryshire, Sir W. Williams-Wynn, presided, at Welshpool, and, in supporting a recommendation that the county war memorial should take the form of a 50-ft. column or pillar on Tower Hill, Montgomery, undertook to give the site and a right-of-way to the summit. Mr. Hubbard was appointed the architect.

Rebuilding of Belgium.
For the rebuilding of the devastated regions of France and Belgium it is estimated that some 60,000 workers will be required. The German Government has for some time past been considering the question of the provision of, and accommodation for, these workers, and has elaborated through its experts a detailed scheme for housing the workers and providing them with everything necessary to meet their physical and intellectual needs.

Lincolnshire Housing.
The Marquis of Lincolnshire is making a gift of over 200 acres of agricultural land for housing purposes. During the passage of the Housing Bill through the Upper Chamber the Marquis carried an amendment empowering tenants for life to give to local authorities a limited amount of land for building purposes. Directly the Bill became law he offered ten acres of land in each of twenty parishes in Lincolnshire to local bodies. The gift represents over £10,000.

New London Garden City.
Plans have been completed provisionally for the creation of an industrial garden city to the north of London. Building will commence next year. A total population of 40,000 will be able to live in this town, and it is estimated to take from four to five years to complete. Negotiations have been carried on between the promoters and Government authorities under the housing scheme. Work will largely be carried on upon Government lines and under the subsidy scheme put forward by the Government.

Architectural Partnerships.
Captain S. H. Fisher, A.R.I.B.A., who has been demobilised, has been taken into partnership by his father, Mr. F. J. Fisher, M.S.A., and they will practise together as F. J. Fisher and Son, at 14, Queen Street, London, E.C.4. Captain S. H. Fisher served with the Royal Engineers in France

for over three and a half years, was awarded the Military Cross, and was mentioned five times in dispatches.

Mr. Albert C. Freeman, C.E., architect, of 82a, Mill Lane, West Hampstead, and Amersham, has taken into partnership Mr. W. Oswald Wright, D.S.O., the firm to be known as Freeman and Wright, with offices at King's Cross, after September 1.

Athens Exhibition.
The Federation of British Industries will hold an exhibition of British manufactures in Athens from October 13 to November 14 next. The Greeks are the trade intermediaries of the Mediterranean coast, Asia Minor, and the Balkans, and have an accumulation of cash in circulation to the extent of £60,000,000 above normal figures. The "Zappeion," which has been lent to the federation by the Greek Government, contains about 35,000 square feet of stall space. Practically the whole of this space has now been allotted. The articles to be shown include structural iron and steel work, electric lamp-making machinery, dynamos, drawing instruments, decorative hangings, paper, etc.

Perth Housing Scheme.
Lord Forteviot, at a meeting of Perth Urban District Committee, in connection with the Bridge of Tain Housing Scheme, stated that in June, 1918, the average cost for the proposed working-class houses was £494, and the price now for three-roomed houses was £717, and for four rooms £877. No working man occupying a three-roomed house could pay a rent of £40, and at a rental of £15 there would be a deficiency of £25 on the smaller houses and of £30 on the larger. It was decided to submit plans to the Local Government Board for approval, and instruct the clerk to the council to arrange for the necessary loans.

The Ministry of Health and the Cost of Houses.
Mr. H. B. Ratcliffe, in the House of Commons, asked the Minister of Health concerning tenders obtained by the Leeds Corporation for the erection of forty-seven houses on the Hawksworth estate which amounted to £42,750, being over £900 per house, exclusive of land and street making, if he would decline to sanction the erection of houses at such a price as being quite out of reach of those for whom they are intended and must inevitably entail a heavy loss to the taxpayer. Dr. Addison writes in reply: The tenders received in connection with this scheme have not yet been submitted to the Ministry of Health, but the question of cost will, of course, receive very careful consideration.

The Cenotaph.
A special meeting of the Westminster City Council was held on August 11 to consider the report of the General Purposes Committee on the question of a permanent site for the Cenotaph erected in Whitehall. The Council passed a resolution consenting to the erection of the Cenotaph on the present site. In a letter received from the Office of Works on July 31 the Council were informed that the War Cabinet had decided that the Cenotaph should become a permanent national memorial to those who had fallen in the war, and that the Commissioner of Police had no objection to the permanent erection of the monument on its present site. Owing to the nature of the memorial and to the volume of fast-moving traffic in Whitehall, the

committee thought the site proposed somewhat dangerous, and therefore recommended that the Office of Works be so informed and that Parliament Square should be suggested as a more suitable site. A further letter from Sir Alfred Mond to the Mayor was now read stating that the present site would be remembered for all time as a spot saluted by the troops of the Empire and of our Allies, and hoping that the Council would see its way to agree unanimously to the views of the Government. There was a considerable discussion, and a motion that Parliament Square was the most suitable site was proposed, but was defeated.

An Architectural Reference Library.

The attention of those interested in architecture is called to the facilities afforded by the reading-room at 27-29, Tothill Street, Westminster, in which the numerous publications of Technical Journals, Ltd., as well as a good architectural reference library, may be consulted by all who care to avail themselves of the opportunity. Overseas members of the profession and architectural students are also cordially invited to make the fullest use of the library, which is open all the week—Sundays excepted—between 10 a.m. and 5 p.m., and on Saturdays up till 1 p.m.

Edinburgh Castle.

The Committee appointed by the Secretary for Scotland to consider the possibility of the utilisation of Edinburgh Castle as the site of a Scottish National War Memorial, after consultation with Sir Robert Lorimer, A.R.S.A., have concluded that the Castle Rock is an eminently suitable site for such a memorial. It is proposed that the memorial should take the form of a building erected round the apex of the Rock. While it is proposed that the building should occupy this commanding position, it will be in strict harmony with and conform to the general contour of the existing buildings. It is not proposed that it should in any way dominate the Rock. It is also proposed to adapt the principal buildings of the castle to various purposes. One would serve as a Hall of Record of distinguished Scottish sailors and soldiers who have served in any war. Another would form a repository for trophies of Scottish regiments. A third would provide a home for the national collection of the Society of Antiquaries. These adaptations would not involve the removal of any ancient or historic building, but it is proposed to pull down various cook-houses and other offices. The scheme has the approval of the King, Sir Rosslyn Wemyss, Sir Douglas Haig, and every Scottish regiment. Donations may be sent to the Duke of Atholl at Blair Castle, Blair Atholl, or to the Hon. Treasurer, National War Memorial, Bank of Scotland, Edinburgh.

Working-class Flats for London.

The Ministry of Health make the following announcement: A conference was held on August 6 at the Ministry of Health between Dr. Addison and members of the London Housing Board—Sir Tudor Walters, Sir Kingsley Wood, and Mr. Strauss—and the mayors and town clerks of the Metropolitan Borough Councils. The conference was called to consider the adoption of special measures for the conversion of houses into working-class flats. The Minister put before the conference a number of proposals for expediting measures and for taking special action so as to secure as much additional accommodation as possible before the

winter. The proposals provide for the fullest co-operation between the Ministry and the borough councils, and for the taking of action by the Ministry on behalf of the borough councils where this is desirable, in order to secure as early results as possible. The proposals were warmly received by the meeting, and steps have been taken to put them into immediate operation.

COMPETITIONS OPEN.

August 22.—Bromborough: Laying-out.

The Bromborough Urban District Council offer a prize of £50 for the best scheme of laying-out for cottage purposes thirty-six acres of land at Bromborough, the selected plans to become the property of the Council. Mr. Badger, director of housing for Liverpool, has consented to adjudicate. Plan of site can be obtained from Mr. W. A. Weston, clerk, on payment of 10s., which will be refunded on receipt of design. Designs must be sent to the Council Offices by August 22 and be under motto.

September 1.—Armagh Electric Light Scheme.

The Armagh Urban District Council invite electrical engineers to supply plans, specifications and estimates for an electric light and power scheme for the district. A prize of £20 will be paid by the Council to the engineer who submits the most suitable scheme. The prize-winner will be appointed engineer at the recognised fees for such work. Plans, specifications, and estimates to be sent to the Town Clerk by September 1.

September 29.—Bridlington: War Memorial.

The War Memorial Committee invite designs for a war memorial. Premiums £100 and £50. Sending-in day, September 30. Particulars from the secretary, 79, Quay Road, Bridlington.

Irish Architect's Success.

The assessors appointed by the Royal Institute of the Architects of Ireland to examine designs in the urban housing competition, have awarded the first prize of £100 to a Londonderry architect, Mr. P. H. Elliott, at present at Curragh Camp.

TRADE AND CRAFT

British Trade in Germany.

The British Chamber of Commerce in Germany, established at 133, Hohe Cologne, is now affiliated with the United Chambers of Commerce in the United Kingdom. The aim of this association, which already includes among its members firms with an aggregate of £250,000,000, giving employment to 1,745,000 workpeople, is to give assistance to British subjects, not only to occupied Germany, and to the needs of British merchants. The Chamber is prepared to introduce British firms desiring representation in Germany, to putable agents, either British or German, and to refer prospective German buyers to English manufacturers and merchants. Trade literature, catalogues, etc., are required to assist local buyers to place orders with British firms. These will be played in a reading room, which is opened shortly. The Chamber draws attention to the favourable opportunities now existing for British firms to secure firm and permanent footing in the German markets.

Galvanisers, Limited.

The accompanying views of some of the shops of National Galvanisers, Ltd., show some adequate notion of the scale of this North-East Coast industry. The firm specialise in hollow-ware, and their articles of output include buckets, scoops, steel shovels, dust-bins, coal oil drums, tanks, and cisterns; in fact they undertake galvanising for all builders and engineers. During the war the firm were occupied with aircraft work for Messrs. Doxford, and are now free to embark upon a peace-time programme. The late Sir Theodore Doxford and his co-directors were mainly responsible for the laying down of the galvanising plant. Mr. Cecil Whittaker, managing director, has had twenty years' experience of the hollow-ware trade, the commencement only three years ago. Employed in this Sunderland industry there are over one hundred; with the present heavy demand for goods of this type indicated, further development is definitely assured.



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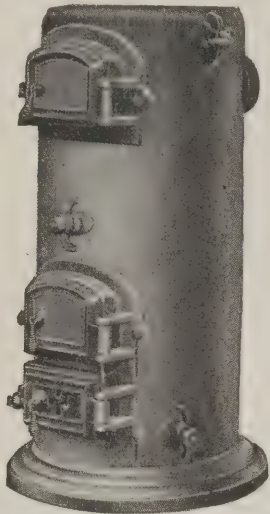
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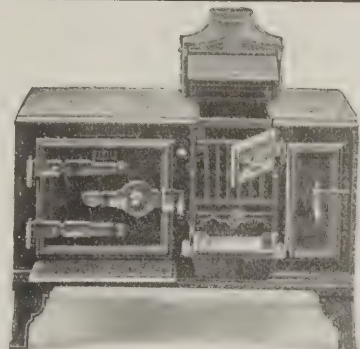
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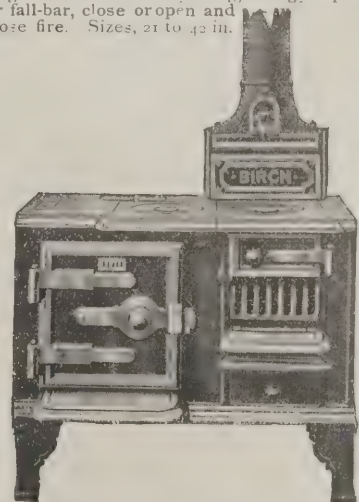
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ELECTRICAL NOTES

Madras Hydro Electric Scheme.

At the investigation of the hydro-electric scheme for Ootacamund, Madras, it was stated that an available fall of 1,050 ft. from the Sandy Nullah stream was possible, which will mean 600 e.h.p. throughout the working period of six hours daily. The distance of the source from Ootacamund is about five miles.

Rotherham Electric Supply Station.

The first instalment of a new electric supply station of the Rotherham Corporation, which will provide a total capacity of 55,000kw., consisting of two sets of 12,500kw. each, and one of 30,000kw., is practically complete. The demand for electric power in Rotherham and district, and throughout the Don Valley generally, is enormous.

Datia Hydro Electric Scheme.

In the Central India State of Datia a scheme is under consideration for generation of electricity by water power. A catchment area of about ninety square miles has been surveyed near Angra Village, across Anghora Nala, and it is estimated that about 500 h.p. will be obtained with a fall of 75 ft. The scheme is estimated to yield 15 per cent. on capital when fully developed.

Dundee Electricity Works.

Mr. H. Richardson, borough electrical engineer of Dundee, has submitted to the Corporation a scheme for the construction of hydro-electric power works to use the water of Tummel Valley, including Loch Erich and Loch Rannoch, to provide electricity. The cost would be at least a million sterling. The Electricity Committee is committed to an expenditure of a quarter of a million pounds on extensions of electricity works. By the time these extensions are completed they will cope only with the demands for current then likely to be made, and that the need for further extensions will still remain. A sub-committee has been appointed to consider the advisability of obtaining expert opinion.

Mansfield Electricity Supply.

Mansfield Corporation is applying for a provisional order to enable it to supply electricity to the urban districts of Sutton, Kirkby, and Huthwaite. Two alternative schemes have been proposed. One is to supply electric current in bulk to the

parish boundaries and leave the local authorities to deal with its distribution; the other to provide the whole of the necessary equipment and fittings to supply the current direct to customers in the same way that the present customers of Mansfield are supplied, but at charges 2½ per cent. higher than those obtaining in the borough. Mansfield Corporation already has an order plant which would enable them to generate the power required in the outside parishes.

Housing Schemes and Electricity.

The newly formed Electrical Development Association in their bulletin that on any important building scheme the supply of electricity, as of water, should be available before work is started, since artificial light and mechanical power is thus provided for laying out and constructing sewers and drains, pumping, sawing, crushing, mixing, and driving shop machines. Where electricity is to be installed in finished houses it is possible to make some reduction in the height of the rooms and consequently in the cost of construction and it is suggested that there is a case for building houses without fireplaces except in the main living and cooking rooms. These might be fitted with stoves to burn coal, coke, and gas, in combination with the hot-water system, and with electric cooking ranges, while some of the other rooms might be provided with permanent electric heating and others with portable electric fires.

Matlock and Electricity from Water Power.

A scheme for supplying Matlock with electricity from water power, put before the local council by Mr. J. H. Hall, depends on utilising the Bentley Brook, a tributary of the Derwent which rises on Matlock Moor at a height of 900 ft. Mr. Cook, of Messrs. Boving and Co., who has been called in to consider that there are only two possible sources, the river Derwent and its tributaries. As regards the Derwent, he thinks it would be impossible to arrange a scheme near to Matlock which would not interfere with the power rights of millowners downstream, and, further, even if any development were practicable it would require Parliamentary sanction. Of the tributaries he regards the Bentley Brook as the most suitable, and considers that a reasonable development is obtainable by drawing water through a pipe from the lowest of the three mill dams and delivering it to a power station at Lumsdale Mill. Presumably sufficient power would be obtained in this way.

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Architects' Journal
Wednesday, Aug. 27, 1919

The Architects' Journal
Volume L. No. 1286

THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



VIEW OF THE TRIUMPHAL ARCH OF SEPTIMUS SEVERUS, ROME.

(From the engraving by Morel.)



TOWER OF THE GIRALDA, SEVILLE.

THE ARCHITECTS' JOURNAL

Joint Editors: A. E. RICHARDSON, F.R.I.B.A., and J. FINDLAY McRAE.

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Housing Progress

In these days of high wages, low quality labour, and expensive materials, there is no such thing as cheapness in building. The big profits reaped by speculating builder cannot now be made, and it is questionable whether further opportunities of that description will ever return. At the present time working-class houses and workmen's flats cannot be erected as a business investment to give a reasonable interest on capital, after allowing for rates and taxes, maintenance and repairs. And yet the shortage of houses is such that artisans' dwellings must be built—if not by private enterprise, then by the local authorities as an essential measure of public health and well-being. For the past five years practically no working-class dwellings have been built in this country, so that not more than half-a-million houses are now required to make good the deficiency. In all probability it will be found that nearly a million new houses will be required for this purpose.

Under the Housing Bill local authorities are empowered to build any artisan houses considered necessary for local requirements after approval by the Ministry of Health. The cost will be met by a local contribution of 1d. in the £ and the balance contributed by the Treasury. The subject has received serious consideration, not only in Parliament, but from local authorities, architects, and private individuals in all parts of the country. Public competitions, calling for plans and estimates of working-class habitations of various sort and size, have been held, and many ingenious plans and methods of construction suggested in order to provide a satisfactory result.

Schemes for erecting approximately 400,000 houses have already been submitted to the Ministry of Health, and plans for the erection of about 150,000 houses have been approved. For London alone it is estimated that 150,000 houses are required to meet existing urgent needs. The London County Council propose to build 30,000 new dwellings to accommodate 150,000 persons, at a total approximate cost of £30,000,000, including £5,000,000 for local sanitary improvements and the removal of slum buildings. Of this number, 10,000 dwellings are being made to build 10,000 dwellings in the next two years at an average cost of £1,200 per dwelling, or £240 per head. At the end of that time it is anticipated that some decrease in the cost of building will have taken place, and that the remaining 20,000 houses will be erected at a somewhat cheaper rate. After allowing for repairs, etc., there will presently be an annual deficit of £30 to £35 per dwelling, or a total monetary loss of about £1,000,000 per annum on the entire scheme, which must be met by the ratepayers and the Imperial Government.

At first glance this seems to be an extravagant estimate, but the health of the community is part of the national wealth, and cannot be disregarded. The old overcrowded blocks of workmen's flats and dwellings may be seen in London, Glasgow, and other large

industrial centres; the insanitary arrangement of back to back houses as built in Leeds and the north of England, enabled unscrupulous builders and property owners to erect a maximum number of dwellings on a minimum area of land, and thus obtain large profits, but this advantage was dearly purchased at the expense of the health of the occupants. These overcrowded buildings frequently became hot-beds of dirt and disease, whilst consumption, drunkenness, immorality, and idleness flourished in such an atmosphere. Indirectly, the defective and insanitary industrial housing of the past has been a large contributory cause of the enormous national expenditure on hospitals for infectious and other diseases, asylums, prisons, and workhouses. In this way the lack of proper housing has detrimentally affected the health of the nation to a serious extent.

Provided the local authorities limit their activities to the provision of suitable dwellings for artisans and their families, there remains but little scope for criticism except on the ground of high cost. Many housing schemes are providing dwellings having from four to eight rooms each. If, however, eight-roomed houses are erected by the public authorities at a heavy loss, necessitating a subsidy of £30 to £40 per annum, then adequate safeguards should be taken to ensure their occupation by the class of tenant for whom they are intended. For example, care should be taken that the larger houses are not occupied by married couples without children, for the purpose of sub-letting the remaining rooms to lodgers, so as to make a living, or increase their income, at the public expense.

Municipal working-class houses should provide the essentials of decent living and comfort, but elaborate or expensive fittings, and unnecessary accommodation provided at the expense of the general taxpayer are not justifiable under existing circumstances. All useless and meaningless ornamentation should be avoided. Simplicity of design, economy in plan, combined with substantial materials and standardised fittings will tend to reduce the first cost of construction and subsequent maintenance charges.

The most disconcerting feature of the housing problem at the present moment is the shortage of suitable labour, though if the recommendations of the Industrial Council for the Building Industry, reported in last week's issue, are acted upon promptly, the deficit should be made good without serious loss of time. Labour, however, is not the only difficulty. The whole machinery of the country is badly out of gear, and some considerable time must necessarily elapse before it is again restored to full working efficiency. Arrears of production, lack of transport, the unnecessary delays of meddling officialism—these also are factors that make for delay. It is only by co-operation, skilful co-ordination of effort, and intelligent use of the resources of labour and material at our disposal that our difficulties can be successfully overcome.

Notes and Comments

The Building Trades Industrial Council.

A SHORTAGE of half a million working-class houses, which is being augmented every year by a hundred thousand, was the disconcerting statement made at the conference of the Building Trades Industrial Council, reported and briefly commented upon in our last issue. These gloomy figures were hardly brightened by the further statement that the Ministry of Health had approved, up to date, of no more than 330 applications, comprising 12,457 houses. Further, it was estimated that there is a deficit of more than a hundred thousand men to do the work. It will therefore be necessary, the Committee urge, that the workers shall greatly increase their output. Surely that is not the only moral to be drawn from so serious a situation. A problem of such complexity does not admit of so simple a solution. With an unprecedented situation to face—not merely with respect to housing, which is only one item out of the many that have driven responsible statesmen to the verge of despair—we must all do our best to increase our output, or the country will go bankrupt. And the machine must be tuned up as well as speeded up, or acceleration will end in disaster. The mission of the various industrial councils is not exclusively to the heathen. It has important applications nearer home. Educated and industrious management, the adoption of the most improved methods, materials, and machinery, a heightened perception of the value of judicious publicity, more enlightened views of the building and equipment of factories and workshops, a quickened sense in the Government and in governing bodies of their duties and obligations, closer attention by everyone to the duties as well as the rights of citizenship, a more earnest and more practical view of general and technical education, including the endowment of scientific research—these are some of the matters to which industrial councils should give their most earnest attention. They must not allow themselves to be side-tracked on a single issue, howsoever important that issue may be, and especially they must keep clear of all suspicion of a desire to cast all the blame and the burden on Labour, which has a strong temperamental objection to being taken to task, and is, alas, particularly apt to use a vernacular equivalent for *tu quoque*.

London Housing.

The spectacle of Mr. Gilbert, whose knowledge of L.C.C. housing schemes is extensive and peculiar, innocently asking for information on the subject from Major Astor, who may be presumed to know no more about it than what he has recently and painfully "swotted up," is sufficiently Gilbertian to provoke a wry smile. Major Astor was able to reply that schemes for the erection of 650 houses at Hammersmith and eighty-one houses at Norbury have been fully approved by the Ministry of Health, and that work on the Hammersmith scheme was to begin on August 25. Norbury, however, seems to be a name of ill-omen—who does not remember the tremendous hullabaloo about "Norbury bricks"?—for Major Astor was informed that the tender for houses there had been withdrawn, and that new tenders were to be asked for at once. A site of 147 acres at Roehampton, to be used partly for housing, has been approved by the Ministry of Health, but neither the lay-out of the site, nor designs for the houses, had yet been submitted. It is understood that the Council have other housing schemes under consideration. Plans for block dwellings to accommodate about 500 persons in the Tabard Street area were approved by the Ministry seven weeks ago, and tenders for them are being invited.

Purblind Housing Authorities.

Gratification that the L.C.C. is getting to work in good earnest rather tends to blunt the edge of criticism; but in faithfulness it must be said that the selection of sites so far afield as Norbury and Roehampton, and the proposal to erect block dwellings in the Tabard Street area, are proposals that stir up certain misgivings. It is obvious that the L.C.C. feels itself under compulsion to build where and how it can, and as quickly and cheaply as it can. But of what benefit will be high-rented houses at Norbury and Roehampton to workers who will have to pay high fares to and from the City? And how pressing must be the emergency that compels the Council to contemplate a revival of the thoroughly discredited system of block dwellings! It may be argued that the Council is completely helpless in the matter—that it has to take economic conditions as it finds them; but this is to take a mean and narrow view of its functions and obligations. Every day it becomes more painfully evident that, after all, there has been but a very small approach anywhere—and especially not on the L.C.C.—towards broad and enlightened views of housing. In

London the work is being undertaken grudgingly and of necessity, and, above all, with a timorous dread of expenditure filling mean minds to the utter exclusion of large principle and resolute action.

Spare the Rates and Spoil the Schemes.

All the London authorities should have conferred and operated with the determination to make London housing an example to the world, but such half-hearted conferences have been held between the various metropolitan councils, have been mainly concerned with ignoble details like the sparing the ratepayers' pocket, and have been dominated by the paltriest pessimism. The larger view—that which would involve the replanning of London, keeping its centre for commerce, an inner zone for residences, outer zones for manufactures and for worker's homes, and so forth—has been dismissed with as much cowardice as contempt. London housing is proceeding piecemeal, spasmodically, disjointedly, casually, will thus perpetuate the old dismal incoherences, the illogicality and untidiness, and postpone indefinitely the re-planning economies of which London is more vitally in need than any other city in existence. The failure of the London County Council to show the least glimmering of an intelligent conception of the issues involved in housing is completely ignominious.

The Prime Minister and the Problem of Production.

Last Wednesday, when Parliament stood adjourned on Wednesday, October 22, the feeling of relief was no greater than that of disappointment. Too much had been expected from the speech in which the Prime Minister moved the adjournment. "Blessed are they that expect nothing, for verily they shall not be disappointed." As Mr. Lloyd George saw reason to say, it is too much to expect "that immediately on the effect of the switch of peace everything would leap back again to normal, exactly as it was in 1914." Business and professional men know better than to entertain any such childish notions, but doubtless there is a large section of the community to whom the advice will give a new and surprising view of the situation. If the nation were not, as a whole, so grossly ignorant of the merest rudiments of political economy, there would have been no need for Mr. Lloyd George to devote about half his speech to expounding first principles as to an infant class. Telling Labour, for instance, that "the less you work the more work there will be for others," is a fatal fallacy, and that to consume more and to produce less is to toboggan down the steepest road to ruin. It ought not to be necessary, apparently is—to tell Labour these elementary truths; and an unfortunate part of the business is that any attempt to educate Labour is almost invariably resented as a more or less disguised attempt to get more out of it. That campaign of enlightenment which Mr. Ernest Brown has advocated will have to be conducted with great tact and discretion or it may do more harm than good. Architects must not shirk this issue. By education and their disinterested position, and by the respect in which they are held by the workers, architects have the best possible qualifications for winning the confidence and goodwill of men who turn a deaf ear to employers, politicians and political economists. Apparently the R.I.B.A. is beginning to see that this is a direction in which it could do national and imperial service. Let it take its courage in its hands, and make an unselfish effort in the sense of the Prime Minister's exhortation: "Let us examine the claims, the grievances, and the complaints of labour, not merely anew, but with a new spirit!" for, as he was careful to add, until that is done and until a satisfactory answer is given, it is unlikely that we shall get a real answer to the problem of production.

Surveyor of Taxes as Censor of Building.

Uneconomical employment of building labour is alleged by Mr. H. B. Devey in a letter to "The Times" of August 18, in which he urges that much useless building is encouraged by allowing excess profits tax to be evaded in the form of capital expenditure. It is by no means easy to assent to his proposition in all holiday resorts and elsewhere companies owning large amounts of amusement or entertainment "will endeavour to spend as much as possible of its excess profits, rather than pay 40 per cent. to the Government." His contention is that the useless place of amusement which is enlarged or redecorated takes so many bricklayers, carpenters, plasterers, and painters who might be working on new houses, and deprives the ratepayer of so much excess profits tax! and he suggests as a remedy that "all surveyors of taxes should be instructed to prevent evasion of the excess profits tax by any capital expenditure."

ich is not absolutely necessary." Mr. Devey would find his egation of wastage of labour impossible of proof, and his ocation of the surveyor of taxes unpopular if not impractic- le. Quite independently of the surveyor's comprehensive orance of building, he is the worst possible judge in such a ise. As well set up the wolf as judge in the sheepfold. No eyor of taxes shall tell us how much—or, rather, how little—the money which he is interested in collecting shall be spent building or repairs. He has already far too much to say to lustry and commerce, and his functions should be curtailed, : extended. Too much bureaucracy is having a deadly effect trade; a very little additional autocracy will kill it outright.

Years of Arrears of Repairs.

n tacitly assuming that caterers and the like are consciously iding the excess profits tax, Mr. Devey is unjust towards use who for several years have been strictly forbidden to build renovate. Is it strange that repression is followed by ound? Could these traders' money—Mr. Devey seems to get that it is their own money—be better employed than in airing the ravages of three or four years of enforced neglect? is on record that warehouses or factories have collapsed rly for want of attention that Government would not sanc- 1; and those buildings that have already fallen are portentous an unprecedented general need for repair. Buildings of all es and sizes are, collectively, in all stages of decay. Every- ere iron is rusting and woodwork is rotting for want of a e preservative coating, and in very many instances brick- k and masonry have crumbled to "cureless ruin" because ken slates and leaky gutters or pipes could not be repaired. l yet Mr. Devey thinks that all available resources should concentrated on housing. That is an opinion which anised architects and builders have strenuously opposed ause they consider it to be absurdly unjust. It is heterodox nsinuate the smallest doubt that the need for houses is so rwhelming as to justify its complete absorption of all our 1 and materials, and still to ask for more; but really the ms put forward by the Government with respect to housing e become a dangerous obsession, and they should be more ess gently reminded that there is also urgent need for other es of building, and that beyond that there is a most pressing and for repairs that cannot be safely deferred any longer. hey are to be further postponed until the surveyor of taxes completed his investigations the premises may tumble about ars of that super-conscientious official. Mr. Devey seems e unaware that the building industry is struggling for dear against a very octopus grip of bland but deadly officialdom, that the intervention of the surveyor of taxes is more than n or will bear. On reflection, one would rather like to see surveyor come upon the scene. His entrance on the over- d stage would either break it down or cause a revolt that ld result in complete annihilation of the whole vicious em of bureaucratic control. Of dubious utility, even in time, it is lingering on as an unmitigated nuisance, and a n sweep of it should be made at once.

To Systematise Signposts.

ance, it is officially announced, is about to systematise its -posts. Strangers are to be left in no doubt as to the e of the town or village at which they arrive, for a large d at each entrance is to announce it, and it is "to be painted rge letters" on town-halls, schools, railway stations, and offices. It would be better if nothing had been said about ize of the letters. Size, if it exceeds a certain relative scale, mes hideous, and it is by no means synonymous with ility, which is the word that the French Ministry of Public ks and Transports would have been more discreet to use. bility comes from shape, proportion, colour, background— hing rather than size, which may be too large for a d'œil, the range of the eye being limited both perpen- rly and horizontally. To take in at a glance a wide nse of lettering is difficult and painful when it is not impos- ; but there is a certain size of inscription that is both easy pleasant to decipher. It is the business of the signwriter d out from the oculists what that size is, and then to con- to it. They seem to have made the consultation, and to acted on it, in Edinburgh, where, for example, the letter- ddom occupies more than one-third of a fascia, and is in ighest degree legible. All this, however, is detail. In and we have yet to grasp the broad principle of labelling owns, villages, streets, and public buildings. Surely it is e highest degree uneconomical and absurd that a motorist d have to pull up to ask the ridiculous but necessary ques- "What town is this?" or "What railway station is this?" in still worse case is the pedestrian lost at night in a rness of suburban streets, many of which are very incon- ously labelled, if at all. There is no resource but to "ask

a policeman," or to interrupt the perambulation of the post- man. Probably every reader of these lines has experienced the humiliation of getting lost in a maze of London streets, and of having to enquire the way out. All this implies enormous wastage of time and temper; and the annoyance amounts to exasperation when one reflects that the remedy is so exceed- ingly simple, and would be so very much less costly than the troubles it would annihilate. No street corner should be with- out its illuminated label; which, indeed, should be more than a street-name; it should tell whither the street leads, how its numbers run, and the whereabouts of the nearest ambulance, police station, fire alarm. If this very necessary item in transport is one of the first things to be accomplished, genera- tions as yet unborn will rise up and call the name of Geddes blessed.

An Historic Mansion and an Early Strike.

Oatlands Lodge, Weybridge, which is up for sale, is presum- ably the Oatlands to which Charles Greville makes so many references in his voluminous memoirs. An amusing entry in his diary, under date August 30, 1819, relates to something very like a strike: "I am just returned from Oatlands; we had an immense party, the most numerous ever known there. The Duchess wished it to have been prolonged, but there were no funds. The distress they were in is inconceivable. When the Duchess came down there was no water in the house. She asked the reason, and was informed that the water came by pipes from St. George's Hill, which were stopped up with sand; and as the workmen were never paid they would not clear them out. She ordered the pipes to be cleared and the bills brought to her, which was done. On Thursday there was a great distress, as the steward had no money to pay the tradespeople, and the Duke was prevailed on with great difficulty to produce a small sum for the purpose." O "gallant" Duke of York! In matters of disbursement he was (to use an eighteenth-century idiom) "monstrous gouty-handed." But the British workman changeth not: except, perhaps that nowadays, having become more sensi- tive and quite super-sympathetic, he will down tools with much less provocation, and what would happen if he did not get his wages down on the nail is ghastly in the conjecturing.

British-Grown Timber.

There seems to be no doubt at all that the British climate is particularly well adapted for the growth of several varieties of high-class timber—some of it, like the brave old oak, unex- celled, and in certain respects unequalled. Nor is it denied that we have a vast acreage that, fit for growing nothing else but timber, is utterly neglected. These waste lands should be compulsorily turned to profitable account. Besides waste of land there has been always an appalling waste of timber. This reckless extravagance must be sternly repressed. One cannot travel fifty miles on the railway without seeing about a hundred miles of post-and-rail fencing that represents a lavish use of a material that becomes ever more scarce and dear as the world's forests become rapidly depleted. Railways are easily the most prodigal consumers of wood. Their sleepers, their telegraph- poles, their platforms, their innumerable country stations built entirely of wood, and their rolling-stock for passengers or for "goods," make vast inroads on the world's timber supply, and the time has come for asking whether this use should not be restricted. If this country grows all the timber it can, and if at the same time the use of woodwork in building construction is progressively superseded, while most railway work will be done in concrete instead of wood, we shall, in the course of sixty years or so, be fairly independent of imports. It is a poor sort of patriotic foresight that refuses to legislate for so im- mediate a posterity.

Subtleties of the Cenotaph.

An odd thing in connection with the Cenotaph is that artists have been uniformly unsuccessful in drawing it. Not a single rendering of the many that have come to our notice has been strictly accurate. One error in particular is almost invariably perpetrated. Readers who have examined the monument closely will remember that on both end elevations, just below the level of the crowning sarcophagus, there is a ledge upon which rests a wreath. This ledge is peculiar to the ends only, the sides rising to the base of the sarcophagus with an uninter- rupted vertical face. Yet artists persist in showing the ledge returned on the side elevations. This mistake may perhaps be partly due to the "joint" which is shown at the same level in the artificial stone, but it is more probably the result of an easy habit of taking things for granted. The Cenotaph is not the crudely simple and obvious mass that some of its critics think it to be. It has many subtle refinements that are only apparent to the discerning eye.

Architectural Causerie

RESUMING my discourse on wall decorations, it is interesting to note that paper-hangings imported from China are said to have been frequently used about the time the great Anne took China tea overlooking the gardens of Hampton Court. There are some authorities who consider that such Oriental hangings originated the idea of the manufacture in England, and that the art had long been practised in China, but there is no reason to suppose that such importations did more than to give impulse to the use of paper-hangings. As we gossip lightly of the early years of the eighteenth century we can pass over the patents of Robert Redrich and Thomas Jones, note the substance of the patent obtained in 1753 by Edward Deighton for "an entire new method of manufacturing paper for hanging and ornamenting of rooms, and other purposes, and that the same will be of great use and benefit to the publick," in order to speak more fully of the later men.

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In 1754 Jackson, a manufacturer of paper-hangings at Battersea, published a work on the invention of printing in chiaroscuro, an imitation of stucco and bas-relievs, and its application to his business, with illustrations. He produced classical subjects and landscapes with such decorative borders, festoons, and flowers as to cover the wall with a rich design. From this artist's account it is evident that paper-hangings were at this date in general demand. And so towards the close of the eighteenth century the art was developed. "The Handmaid of the Arts," printed for J. Nourse in 1764, gives a minute description of the manufacture of paper-hangings of chopt-cloth; the author also mentions "imitations of velvet, damask, brocades, chintz, and other such silks and stuffs as are employed for hanging rooms."

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At the period when Wedgwood had gained his reputation as the chief of the potters, Sherringham of London became the leader of the paper stainers. He appears to have been a man of considerable taste, and had travelled on the Continent. He directed the activities of numerous craftsmen of first-rate power, among whom were two Italians, Rosetti and Lewis, and by sound directions was able further to develop the art. In the eighteenth century, when paper-hangings were finished by hand, the workmanship was of the highest quality. It was possible to buy printed architectural ornaments, such as the egg and tongue, leaf and dart, bead and roll, to paper on the ovolo mouldings of panelled rooms. An instance of this came to the notice of the writer in the house, No. 9, Berkeley Square, once the residence of Robert Furze Brettingham.

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At the beginning of the nineteenth century paper-hangings had to be made of a number of sheets, approximately 23 in. by 28 in., fastened together so as to form the required length of twelve yards. But a successful attempt appears to have been made in 1799 by a Frenchman, Lewis Robert, with a small machine, to produce paper in an endless length. This invention was purchased by Leger Didot, and a relation of his in England, John Gamble, obtained patents for it in 1801 and 1803. No immediate advantage was derived from this invention for many years, and it was not until 1830 that Messrs. Fondrinies, of London, were able to produce plain paper in a continuous length. Finally, in 1836, the repeal of the duty on paper-hangings took place. This change brought about quite a revolution in the trade, improvements were effected, and paper-hangings came into more general use.

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Subject papers appear to have originated in France. In 1816 there was a dining-room at Amiens representing the principal buildings of Paris. This room was 40 ft. long, but there was no repetition of the design. There is an inn at Truro, the staircase walls of which carry a paper representation of the chase. Many of the old London houses still retain the marbled and stuccoed papers of the Regency period, varnished to a golden brown impossible to mistake, and a few years back a well-known London firm of upholsterers obtained the monopoly of a paper printed with joints in imitation of ashlar work.

The choice of the right type of paper is a matter of serious moment to the architect who wishes to remain true to his artistic sense and at the same time desires to please his client. Some there are who overcome the difficulty by specifying plain distemper or paint, and in rare instances it is possible to introduce panelling, but to-day the cost is the determining factor. Paper-hangings, if properly selected, and there are thousands of designs from which to choose, contribute greatly to the furnishing of a room; it is possible to give increased scale to a

large room, or to make a small one look like a cupboard, solely through the agency of the wall decoration, and many a fine interior has been ruined by the whims of the vulgar. I hope there is to be a revival of that much-despised process of grain, and stippling woodwork in semblance of oak and mahogany; if this is the case we can look forward to the resurrection of the English and French wall papers, for the one leads to the other.

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It is indeed a rare pleasure to rediscover the beauties of old building. The number of comforting features one encounters—I won't say labour-saving devices—makes a stay at a manor house a real holiday. When the visit is over, and we return to ordinary surroundings we miss the chair rails, denticulated cornices, the six-panelled doors, and the delicate sashing, for these things are not specified to-day, neither are good brass locks.

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I am not the most recent convert to Chinese taste, although my attitude is respectful towards chinoiserie of every description, and my views are catholic. The other evening I paid a visit to some friends who own a diminutive house in a cathedral city to the north of London, and during my stay enlarged my knowledge of the east. Externally, my friend's house resembles a china cabinet, the windows are sashed in a Sheraton manner, it has slight pediments with vases at the springing, and is festooned with ivy; moreover, it is furnished with knowledge, and once inside the front door one is compelled to think of Elia. After dinner came an invitation to make a tour of the rooms and an inspection of the family treasures. My friend's house belongs to the period of the Regency. It has a geometrical staircase in oak, five living rooms, a road kitchen, and many convenient cupboards, nooks, and unexpected places. The furniture is appropriate and the close friendly. Adjoining the parlour I noticed a collection of Chinese in a cabinet out of harm's way, and venturing a remark regarding it my hostess informed me that it had been brought from the east by her grandfather whilst in command of the *Indiaman*. Through the glazed astragals peered mandarins with courtly mien, willow-pattern bowls, weird beasts and dragon-pert birds, ginger jars and elegant vases, the gleanings of many voyages in the days of wind-jamming, collected fortuitously before the captain went down with his ship during carting operations off Gravesend. The china cabinet exercised a spell over me. In this collection I discovered the attitude of the eighteenth century towards the treasures of the Orient, emanating without doubt from the desire for novelty.

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In the seventeenth century the Dutch and the Portuguese were instrumental in introducing the wares of the East to the West. Tea-drinking became a fashionable craze at Hampton Court with Anne presiding at the table. The fancy paper and the strangely-marked canisters in which the tea was packed excited curiosity, ornaments were desired to fill the shelves of Marot's angle fireplaces, and the directors of the China Company were ready to convey items of furniture to be lacquered in China and bring them back again. The passion for articles and ideas of eastern origin was in the ascendant when Chambers, the supercargo, returned from the Orient with his charge of merchandise and notes in his sketchbook for a famous dissertation, which cost him much application to the classic touchstone to live down. Walpole and others might satirise the aspiring architect, but Goldsmith could edit the *Citizen of the World*, and the pagoda at Kew could be built to confute those who scoffed at a disciple of Confucius.

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At this distance from the scene of the eighteenth century squabble it is possible to view the obsession for chinoiserie as prevalent with impartial judgment. Tea-drinking started a craze, the desire for novelty to foil the Palladian movement in furniture, especially the phase of which Kent was the priest, furthered it. Finally, Chippendale took it up, and helped out its shortcomings with Gothic adjustments, in which he was followed by Halfpenny, Batty Langley, and a host of others. There was an excuse for the tea-traders of the first half of the last century to introduce the figure of a Chinaman at the entrances to their warehouses, and perhaps the man in figures at the north end of Regent Street, set in state above a fascia to direct attention to the wealth of China silk in the windows below.



COURTYARD OF THE PALAZZO MASSIMI, ROME. PERUZZI, ARCHITECT.

Conversion of Large Houses into Flats:

Investigations and Recommendations of the Mansion House Council

(Concluded from No. 1285, page 237.)

Trinity Square Conversion.

THE property in Trinity Square, London, S.E., some of which has been "made down" from its original better class residences into flats for working-class tenants, was in the Early Georgian period and contained many of the characteristic architectural features of that time. The houses were built in terraces, with the front door on the right-hand side of each house. The frontage was about 18 ft., and the depth about 23 ft. Between the sidewalk and the front of the house was an open area of about 10 ft. wide, and the ceiling of the front rooms is on a level with the pavement. In the rear were, originally, gardens of about 20 ft. long, so that the area of the plots on which the houses were built was about 18 ft. by 23 ft. The houses contained eight rooms, two rooms on the ground floor.

The method of conversion has been to take two houses and move the staircase in the left-hand house of the pair. As seen from the plans, opportunity was taken when making good of the two houses into one flat to use the space occupied by the staircase for a bath room. Each of the flats from the ground floor upwards contain two bedrooms, bathroom and living-room, kitchen with range, and hot and cold water supply in addition to the flat, and in the space between the foot of the staircase and the passage partition a store, capable of holding about 100 lbs. of coal, has been provided. In certain of the flats this space is substituted by a hanging space for coats, etc. The basement flat consists of only two rooms and a scullery. The original front kitchens are made (1) into a large living-room with closed self-fitting range with boiler, and (2) into a bedroom, a doorway being made through from the other room. In the old back kitchen of the right-hand house the scullery is made, while the back kitchen of the old left-hand house, with the space originally occupied by the kitchen staircase thrown in, makes a common wash-house with copper and porcelain sink and has drying accommodation. In the basement flat the living-room, about 18 ft. by 12 ft., the space, where the old kitchen passage was originally, being thrown into the living-room, while the bedroom is about 14 ft. 6 in. by 12 ft. Entrance to these lower flats by the area steps, and a small passage has been made, where the original area door to the left-hand house existed, which provides room for a w.c., as well as an entrance lobby.

The ground floor flat is slightly smaller than those above, and the entrance passage keeping the right-hand front room at its original size. A doorway has been made in the passage inside the flat, and the old doorway to the room locked up. This corridor has been taken off the right-hand back room and staircase, and is about 3 ft. wide. The kitchen to the flat has been made where the back room of the old left-hand house of the pair existed. A modern closed cupboard with hot water service to a circulating cistern has been made in the cupboard on the right-hand side of the fireplace, the separate cold supply cistern is also in this cupboard. The flat has an entirely separate cold water service from the main. The dresser is opposite the fireplace and on the right-hand side where the staircase window was, and a larder built in the side has also been provided. In most cases the two front rooms retain the original marble mantelpieces, and the plaster on the ceilings has all the old architectural features intact. The bathroom, made, as mentioned earlier, in the space of the old kitchen, contains bath with hot and cold supply, and w.c. In addition to a relatively small room, the second bedroom is large enough to take a full-sized bed. The first floor and top flats are made in fitting, and have the advantage of the front rooms, being 18 ft. by 12 ft.

The pair of houses, where the right-hand house was at the end of a street, the end wall was in a bad condition, as was the back wall on the garden front, the foundations of which were close to the public sewer. Opportunity was taken in making to construct a bay, part of which gave extra room to the back bedroom, and the other part was made into a scullery kitchen with larder. The front areas and the old gardens have been concreted and finished in cement with a central drain. Careful selection of tenants is most important to secure the results socially as well as financially. In all cases the old stairs have been removed and replaced with cast cement stairs and landings carried on steel girders and frames about 12 in. thick. Careful attention has been paid to detail. In the garden walls proper, hard wood blocks, fitted into the brickwork with cement (corresponding when complete to the end of the brick in the bond) have been provided for the hooks, etc., to

carry the clothes' lines. Mr. J. H. Wilson, P.A.S.I., was the surveyor of the property. The rents of the flats vary from £20 3s. to £40 15s. per annum.

Kenley Street, Notting Dale, Conversions.

The reports of the Medical Officer of the Royal Borough of Kensington for five or six years previous to 1906 had drawn attention to the insanitary conditions of the area the Council decided to acquire the undesirable dwellings and remodel them rather than cover vacant sites with new dwellings. Through the public-spirited action of Sir H. Seymour King, the first Mayor, the Council were enabled to purchase the freehold ground rents of a portion of the property without publicity, and also the other interests. In this way property worth over £12,335 was secured. As soon as it became known that the Council was the purchaser the price rose 50 per cent., and ground rents which had been bought for £200 were only to be had for £300.

The six houses, Nos. 12 to 17, Kenley Street, on the north side, purchased with vacant possession, were the first to be adapted, and as the property on this side overlooked Avondale Park at the back it was possible to construct balconies. The sanitary works were entirely reconstructed, and the floors, ceilings, and partitions renewed. Other property was acquired, bringing up the total to twenty-six houses, which were made into fifty-two suites, each with separate scullery and sanitary convenience, and where three-roomed tenements were practicable a new living-room was constructed with a yard or balcony, according to floor. New ranges, stoves, dressers, larders and cupboards were added and comfortable homes provided. On the south side the houses were rebuilt after the consent of the London County Council had been secured to an alteration of the building line.

When completed the scheme provided accommodation for twenty-six one-room tenements, sixty-three two-room tenements, and thirty-one three-room tenements, giving homes for 494 persons, against 360 persons in the old houses. The cost approximately was £125 per house for the freehold interests, and £250 for the leasehold interests, or about £23,000 in all. Including legal and other professional expenses, the cost of remodelling was about £22,000, making a total cost of £45,000 for the housing of 494. The estimated income was £2,025 per annum, and the outgoings at £924, apart from loan charges, £2,326, which left an estimated charge on the rates of £1,206, decreasing annually with repayment of loan to £26 5s. in 1929. Those who know this area will appreciate the position and the success of the Kensington scheme.

Scantlebury Estate.

Owner leaseholders of the large Victorian houses, built on four or more floors, with invariably a basement, were faced, for some years before the war, with the recurring liability of ground rent and repairs, without a near prospect of income. The public prejudice against this class of property arose from several reasons, amongst them being the cost of upkeep and the changed conditions of home life, which restricted the number of people requiring large family houses. In these circumstances, enterprising people hit upon the idea of dividing these marketable properties, and converting them into maisonettes, or small self-contained residences.

At times convertees have found a temporary difficulty in letting these suites, but now that ordinary development, since the Finance Act of 1909, has been restricted, owners of this class of residence have come into their own, and rents, almost without exception, are on the upward grade. The supply of small suites is not equal to the demand. As finance permits, the large houses on the estates are divided, or linked up as the case may be. The flat, with bedroom, sitting-room, kitchen, bathroom, and w.c., is much in demand, as are also self-contained suites with four bedrooms, two sitting-rooms, kitchen bath and two w.c.'s. Suites arranged on one floor are in great demand, and several of these have been planned, in some cases with three bedrooms, two sitting-rooms, bathroom, and w.c., and in others with slightly less accommodation. From a financial point of view, after sinking fund to replace the additional capital put into the structure has been met, very little additional income is secured, but there is this great advantage, that whereas before conversion the property produced a variable income, the scheme now produces a steady income, as the suites are never empty. It is difficult to foreshadow how long this state of affairs will last.

Of course, property with longer unexpired terms would show a better return, as the sinking fund would not have to be so large. Conversion of this class of property is one method of meeting the shortage of houses, and ground landlords would be well advised to assist by agreeing to the conversions, and, where necessary, renewing leases; in fact, the leaseholders who have borne the loss should have some protection against unreasonable landlords given to them.

PRACTICAL RECOMMENDATIONS.

Kitchen Fittings.

The illustration shows a compact fitting for small tenements where space is very limited. The underside of the dresser-top, which is usually devoted to drawers and pot-boards (provision for the latter being made elsewhere by means of a wide shelf), is used for a coal-bunker, the convenient placing of which where space is confined often being such a difficult problem, particularly on upper floors. The door of the bunker is intended to open on to an outside lobby or balcony of the external staircase, and the sliding door is hinged to fold down so that the coal is accessible when the bunker is full or nearly empty. In the latter case the door is folded down, slid up, and held in position by the bolt. A deep glazed enamel sink with plug, draining board, and plate racks are provided. The sink trap should be of galvanised iron, having an ample cleaning cap. Iron is usually preferable to lead, owing to the fact that, in the event of a blockage, tenants often use drastic means to the detriment of the lead trap.

A small cupboard beneath the drainage board is provided for sundry stores; and the shelf could be omitted and the cupboard used for pails, scrubbing, and cleaning utensils. At the back, side, and beneath the sink the wall surfaces should be tiled, or if too costly, finished with floated cement prepared and painted. A small window opened out near the sink improves ventilation and light, and so, indirectly, aids cleanliness. The larger cupboard shown on the detail is also designed to meet the exigencies imposed by limited space. A small window, filled with wire gauze, opening into the outer air, is essential, and a cool and shady position should be selected as far as possible. Ledges beneath the cupboard are provided for shelving.

Structural Problems.

Every case for conversion must, of course, be considered in relation to the accommodation proposed to be provided and the existing arrangement of the building. The aim should be the provision of self-contained tenements, complete as to water supply, sink, w.c., and accommodation for coals (the latter need not be extensive for small flats). In the smaller type of two-storey terrace house, a frontage of from 15 ft. to 16 ft. may be regarded as a minimum; and it is evident that the entrance door of the ground floor tenement should open directly into the living-room. Assuming there is a width of 16 ft. between the centres of the party walls; a staircase of 3 ft.; two 4½-in. outer walls, and a 6 in. partition wall, the width of ground floor sitting-room would be 11 ft. 9 in. A frontage of 19 ft. to 20 ft. would then be necessary to provide a passage on the ground floor rooms.

An alternative scheme is to convert each floor of two adjoining houses into a single flat, a single staircase being retained, the other being removed and the well floored over. Particular note should be made of the flues, and the arrangement of the rooms viewed with reference to these.

In dealing with larger types of houses and semi-detached houses, the problem becomes one for solution by the consideration of the peculiarities involved in each case. The general points to be looked to are: (1) Can a good scheme be effected without an undue cutting away of present walls and partitions? If an excessive amount of "gutting," strengthening of floors, new staircases, small outbuildings to provide sanitary accommodation, are required, the houses are in all probability unsuitable for conversion, and the result would not justify the expenditure; (2) can the drainage, i.e., soil and waste pipes be concentrated? An external balcony staircase should be provided at the rear for access to yard or garden, and a convenient place provided for a sanitary dustbin on each landing. In all cases new windows should be opened to afford ample lighting to passages, in some cases this may require to be augmented by fanlights over the doors or by borrowed lights. Schemes involving ill-lighted, or poorly-ventilated passages should be rejected.

Section 78 of the London County Council (General Powers) Act, 1907, provides for a proper and sufficient supply of water to tenement houses. Although a sink and waste pipe is not expressly mentioned they should undoubtedly be provided. An adequate easily accessible water supply on every floor let as a distinct tenement should be regarded as a sanitary necessity. The placing of a sink and water supply on a landing or other

(internal) position to be utilised by two or more tenants is undesirable. A deep glazed stoneware sink, with a plug and chain, is an advantage. The sink trap should be galvanised iron, with a cleaning cap of ample size. In the case of room tenements, or larger, intended for the occupation of a family, a w.c. should be provided exclusively for such tenement. In the case of smaller tenements, say where there are two on a floor, one w.c. between them might be permitted. In the case of the larger class of house there should not be much difficulty in obtaining a larder of suitable dimensions. In smaller tenements a cupboard placed in a convenient position against an external wall and ventilated directly into the outer air, will probably provide sufficient accommodation.

Probably the present high cost of paper will materially help to bring about a larger use of distemper. The process of conversion itself will almost certainly render necessary the renewal of a large amount of plastering, a good opportunity is thus afforded to start with a sound hard wall surface for distempering. A simple picture-rail; and a white frieze help to improve the lighting; this device also diminishes the appearance of excess of loftiness where large rooms have been subdivided. Elaborate cornices, centre ornament, and similar enrichments are to be removed. The kitchen and scullery should be finished with strict regard for their use, the back above and beneath the sink should be finished in floated cement (if tiling be considered too costly), and likewise a convenient corner for the gas-stove. These surfaces may be prepared and painted to facilitate their being cleansed. A small additional window opened out often be found desirable to increase ventilation and give a feeling of airiness.

It is hardly necessary to allude to the provision of reasonable sound and efficient ranges, coppers (ordinary or gas), and baths. Shelving and cupboard accommodation should be fitted; as regards cupboards, however, it should be borne in mind that these are sometimes in excess, and besides diminishing the effective space in the rooms are used for the hoarding of things which should be thrown away. Ledges can be plugged into walls in convenient recesses, kept back about 1½ in. from wall face, and shelves provided; and cupboard fronts fitted subsequently if found desirable.

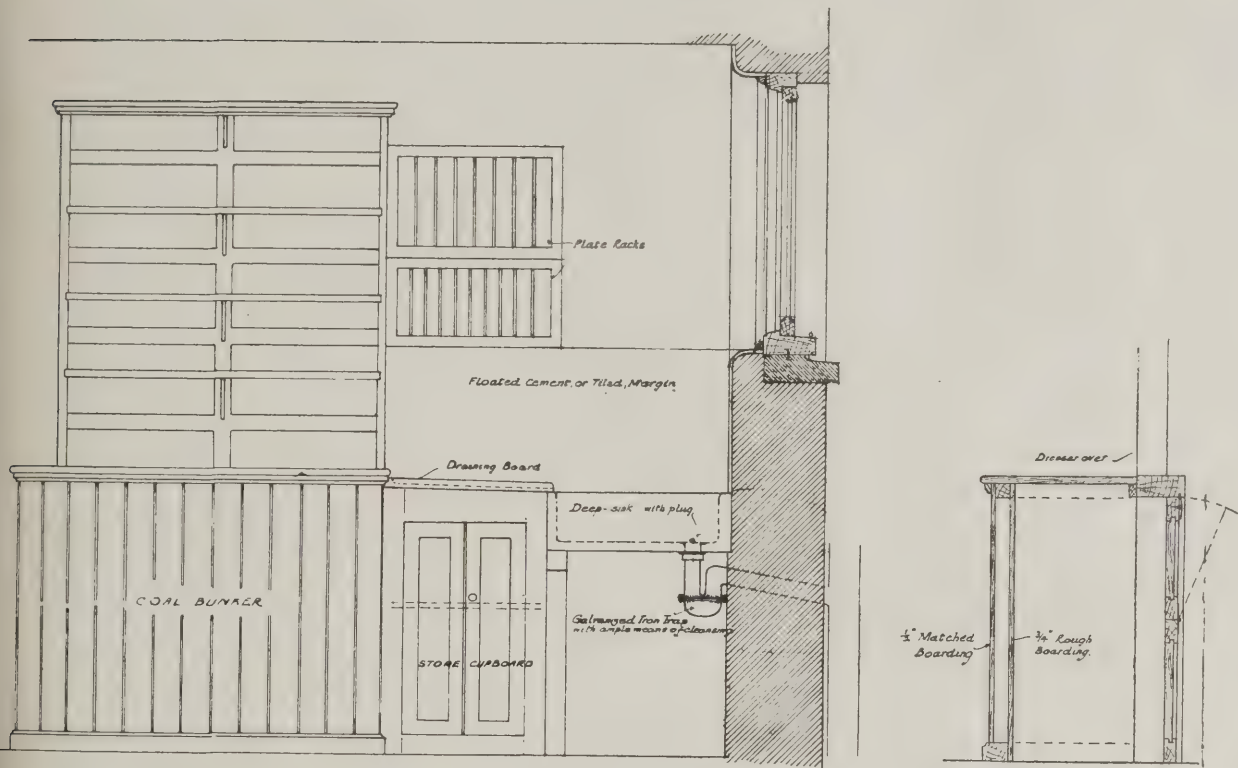
The Architect's Métier

THE call of the age to which the architect is now addressing his efforts in order to solve the burning problem of the moment, how to provide suitable habitations for the industrial classes, is distracting his thoughts to no small extent from the higher aims of his Art, and he is in danger of losing touch with what is more properly his own sphere, namely the monumental as distinguished from the comparatively secondary and humdrum side of civics. So much so, in fact, that the solution of housing questions seems as if this were be-all and end-all of town planning.

The word town-planning, signifying merely providing homes for different sections of the community, is really somewhat of a misnomer. The term, properly speaking, should connote a larger and higher aim of scheming, the lay-out of towns from a governmental, industrial, commercial, hygienic, educational standpoint. Such considerations should be antecedent to laying down any scheme for providing homes for street householders, which is only a sub-section, so to speak, of civic planning.

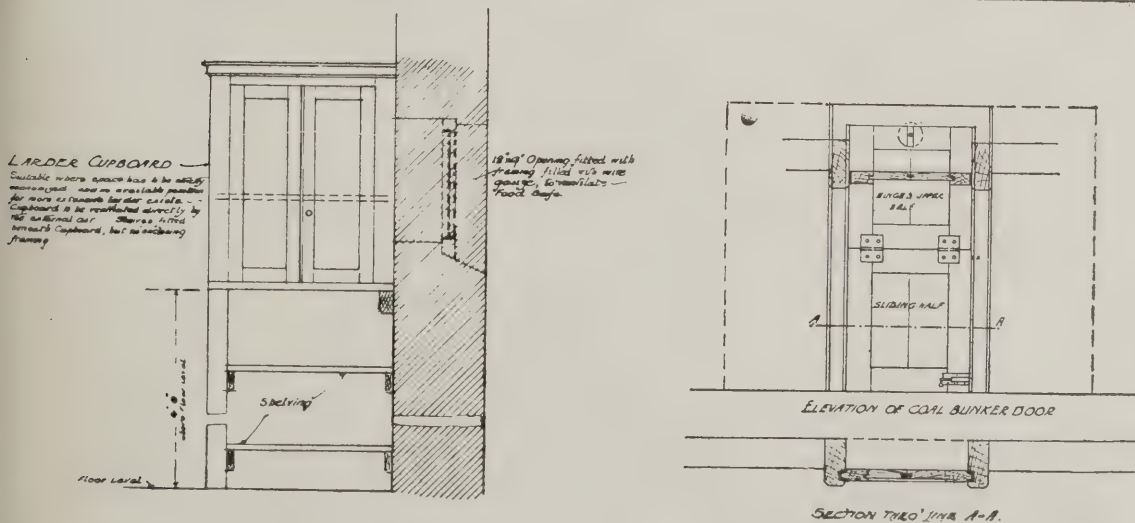
Such being the case, it is likely enough that at some future day housing schemes will, in many cases, prove a positive hindrance to the normal expansion of towns. Through the ages of history there have been notable instances of town planning in the larger manner in which the municipal centre provided a nucleus, as distinguished from extraneous domiciliary considerations, and unless the latter are regarded as the branch and stem of any town planning properly so-called, satisfactory development cannot be assured.

The architect, in the exercise of the greater function of town planning which belongs to him, needs, in the present time, particularly to keep before him this municipal or larger matter of civics and to advance its claims upon the public. We want London that shall be permanent; something satisfying the needs of the future. The mere appendages of a town, as represented by its housing schemes, are almost as transient as a gipsy campment, and as such they do not deserve to take a position in the architect's mind to the exclusion of greater considerations. These are his proper métier. Let us not attend so much to the trimmings, but to the monumental lay-out of our cities. The Egyptians strove for the glory of permanence, pre-eminently in their pyramids and temples, while the excavations at Nineveh, Babylon, and Khorsabad tell the same story of endeavour to confer eternity on building. With this wonderful London-to-day much needs to be done in this regard. Her places are not nearly large enough. Trafalgar Square needs to be repeated, and



ELEVATION OF DRESSER, SINK, ETC.

SECTION THRO' COAL BUNKER



ELEVATION OF COAL BUNKER DOOR

SECTION THRO' LINE A-A.



MOSQUE OF AHMED I., CONSTANTINOPLE, SHOWING ANCIENT HIPPODROME

her monumental column on the other side of an axial line the new Empire bridge that is coming; or doubly repeated, as in Leicester Square at one end and Covent Garden, with Paul's Church, at the other, although perhaps not as a set. The whole of the north side of the Strand should be removed, or if rebuilt it should be as monumental blocks well apart. On this greatly enlarged space the National Gallery, the Church of St. Martin's-in-the-Fields, and new monumental buildings should stand on island sites. We could extend the picture of a regenerated London on greater areas, buildings that shall bid defiance to the crumbling hand of occupying positions of dignity on such areas consistent with the importance of a Metropolis. Look to Priene, Selinus, then to Rome itself. Time has not so undisputed a position that her ancient Forum is effaced; that her monuments of glory and of triumph are even yet gone. They still stand the ever-flowing tide of change. So it ought to be the monuments of our own age.

We are not generally appreciated that formal town-planning has been the initiation of all the great cities of the past among ancient civilisations, and among many cities of the Middle Ages same lines have been observed. During this later period, however, an antagonistic influence seems to have intruded itself, bringing a spirit of rebellion against any sort of formalism. We must thank that period for a bewitching picturesqueness, in a manner in which buildings were thrown together, but it was not a healthy or normal development, and with no regard for propriety. Our present-day economies will not allow us. What to do instead is the problem of the architect of the future. The age in which our activities are spent will provide

the incentive. Taking London as our prime instance it may be said that familiar though we are with the idea of reconstruction on plan, too little regard has been paid to how differences of levels should affect the architectural treatment. This consideration should and indeed must be taken more into account in the re-creation of our cities.

We should adopt a more general terracing of our buildings, with main entrances coming on the first floor, or, in other words, abolish basements below ground level, and instead devote the space occupied by the terraces to the accommodation of the offices and storage. This arrangement for reaching the main entrance at the first-floor level from off a terrace, especially where appreciable difference of level justifies it, should give enhanced dignity to the nobler streets of a future Metropolis. In accord with such a scheme, ancillary buildings of less height might be ranged around the main blocks, imparting dignity to them by accentuating their scale.

These are matters to which architects' consideration may be commended with advantage, rather than the subordinate question of how the industrial population are to be accommodated in the matter of their dwellings.

R. W. COLLIER.

[How to improve the lay-out of ancient cities without involving paralysing expenditure is a problem to which no satisfactory answer has yet been found. In the case of London it has cost hundreds of thousands of pounds to set back a street frontage merely a few feet. What it would cost to carry through so ambitious a scheme of regeneration as that suggested by our contributor we tremble to conjecture.—EDS. A. J.]



VIEW OF CONSTANTINOPLE FROM EYUB, LOOKING DOWN THE GOLDEN HORN.

(See page 268.)

The Plates Described

The Saumah, or Giralda, Seville.

WE reproduce as our frontispiece a photograph of the magnificent Giralda of Seville. The Saumah, or tower, 250 ft. high, formed part of the mosque built between the years 1100-1160, and completed 1196 by Jubis, Gerri, or Hebes; this tower was repaired at the close of the fourteenth century. The belfry was added about 1568-70, making the tower 350 ft. high, and in 1574 Diaz de Palacios continued the work. During the first half of the seventeenth century the sixth story was completed, and the gilt and bronze weathercock statue of Faith, 14 ft. high (prepared in 1566 by Morel), was placed in position. It is interesting to note that Stanford White selected this motif for the tower in Madison Square Gardens.

Peruzzi and the Palazzo Massimi.

Baldassarre Peruzzi, the architect of the famous Palazzo Massimi, at Rome, of which a view of the courtyard is reproduced in this issue, was probably born at Volterra, Italy, the son of a Florentine weaver. Brought up in Siena, he went to Rome about 1503, and, after several years of study, began to practise as an architect, one of his earliest buildings being the Villa Farnesina, completed about 1510. Later he was associated with Sangallo in the superintendence of the works at St. Peter's. He made an attempt at design in the Gothic manner (a drawing for a church façade preserved in the sacristy of S. Petronio is attributed to him). In 1525 he built the Ossoli palace in Rome. Peruzzi was exceedingly popular with the general public of his day, who successfully petitioned on two occasions for his appointment to the office of *architetto del publico*. He began the Palazzo Massimi in 1535, the year before his death. Peruzzi was also a painter of uncommon distinction, serving, after tuition from Pinturicchio, as assistant to Raphael, in Rome.

Compactly Arranged Kitchen Fitments.

These fitments are described in the notes which are given on page 262.

Plans of Large Houses Converted into Flats.

These plans should be studied in conjunction with the notes which are given on page 261 by the Mansion House Council on Health and Housing.

The Mosque of Ahmed I., Constantinople.

The traveller who approaches Constantinople by the S. Marmora first sights Scutari, the famous Asiatic town, where the caravans of merchandise started on their long marches to Persia and far-off India. Next, rounding the Point of Seraglio, he sees the European town of Galata, its streets climbing steeply up to the round tower of its Genoese and Venetian traders. Then, as he enters the beautiful waters of the Golden Horn, the Turkish city of Stamboul gradually unfolds its superb outline along the winding shores. As will be seen in the illustration given on page 265, this is a view of surpassing beauty and grandeur; the quays crowded with the ships of many nations, the rising slopes clothed with red roofs and groves of cypresses, and the summit crowned with the white minarets and silver domes of the mosques, combining to form a picture of surpassing beauty. The mosque of Ahmed, of which a view is given in this issue, was built by Ahmed I. in 1608-1614, and is noteworthy on account of the way with which he restored the weakening Government to something approaching its former power. The great mosque which he erected was placed on a site facing the ancient Hippodrome and close to S. Sophia. It measures 214 ft. wide by 178 ft. long externally, and the courtyard, the largest in Constantinople, is 214 ft. by 186 ft., making a combined length of 364 ft.

A Gothic Altar Screen.

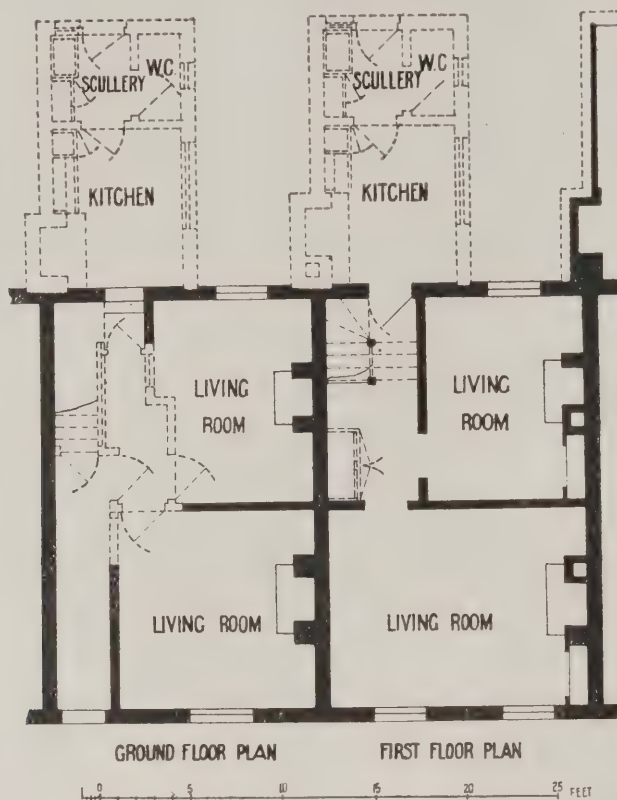
Though there is undoubtedly more malice than truth in the assertion that Gothic is unpopular with architects because it is so difficult to design, there can be no doubt that its unpopularity is largely responsible for the comparatively small amount of work that is carried out in the style. In these days, so much secular work is concerned, there is no time for laborious concentration upon elaborate detail, and, further, as the enthusiasts of last century discovered, the spirit of mediæval architecture cannot be revived. Our modern Gothic school, though it means large, is brilliantly gifted, as large numbers of ecclesiastical buildings throughout the country attest. The altar screen in St. Patrick's Church, Earlswood, designed by Mr. W. Bidlake, is a delicate yet highly effective piece of work, remarkable for its miniature window motif with its beautiful carved mullions and tracery and elaborate ornament.



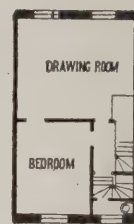
Fig. 23.



Fig. 24. Photos: Nathaniel Lloyd, O.B.E.



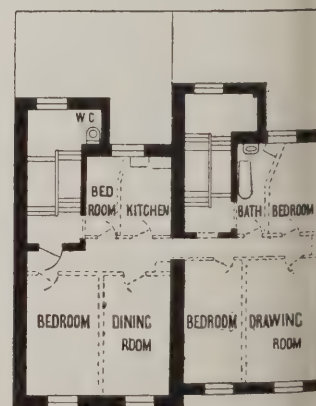
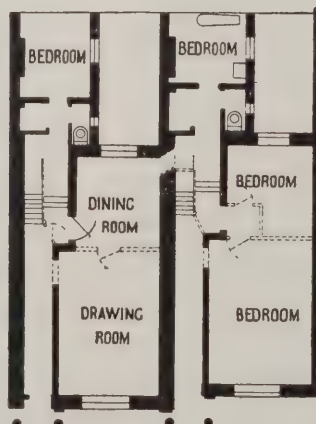
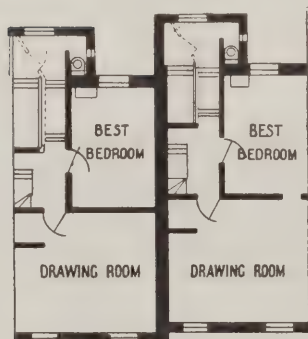
12 TO 17, KENLEY STREET, KENSINGTON.



29, PORCHESTER SQUARE.

PLANS ILLUSTRATING METHODS OF CONVERSION
LARGE HOUSES INTO FLATS.

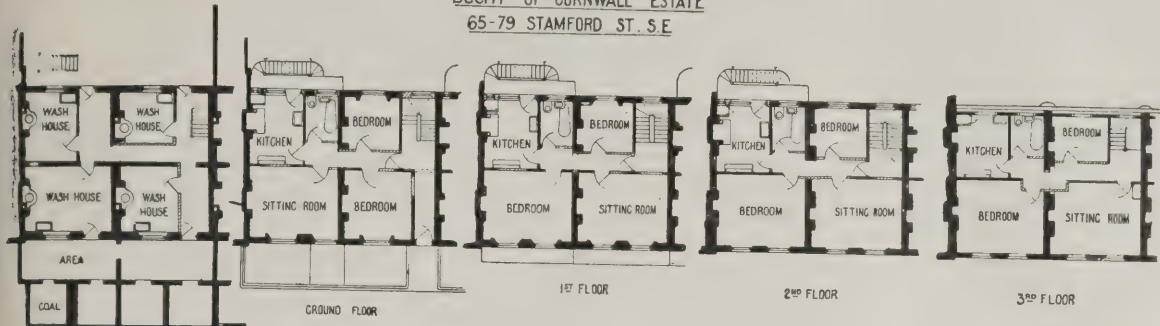
(For description see article on pages 261-2.)



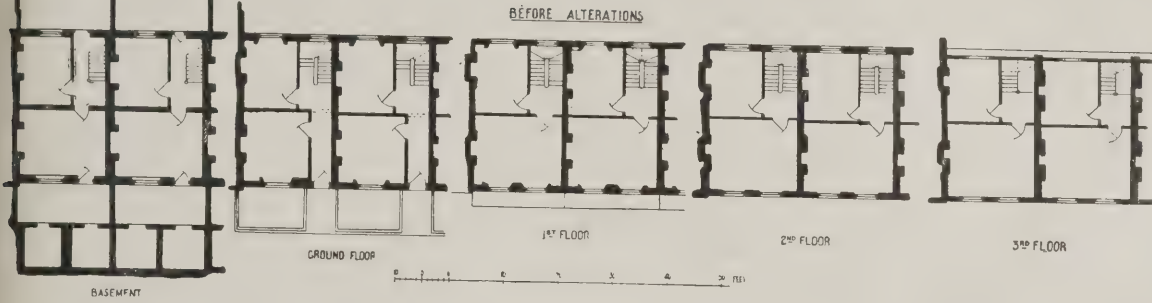
0 10 20 30 40 50 FEET
SCALE 1/8" = 1 FOOT

262 AND 264, GLOUCESTER TERRACE, W. (CONVERSION TO FIVE SELF-CONTAINED SUITES).

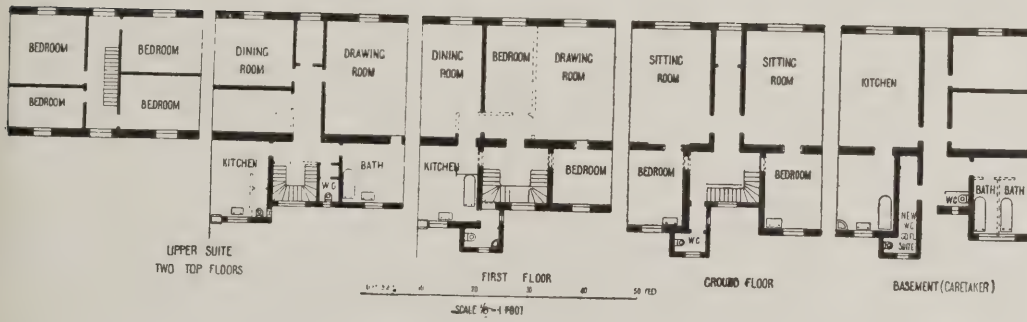
DUCHY OF CORNWALL ESTATE
65-79 STAMFORD ST. S.E.



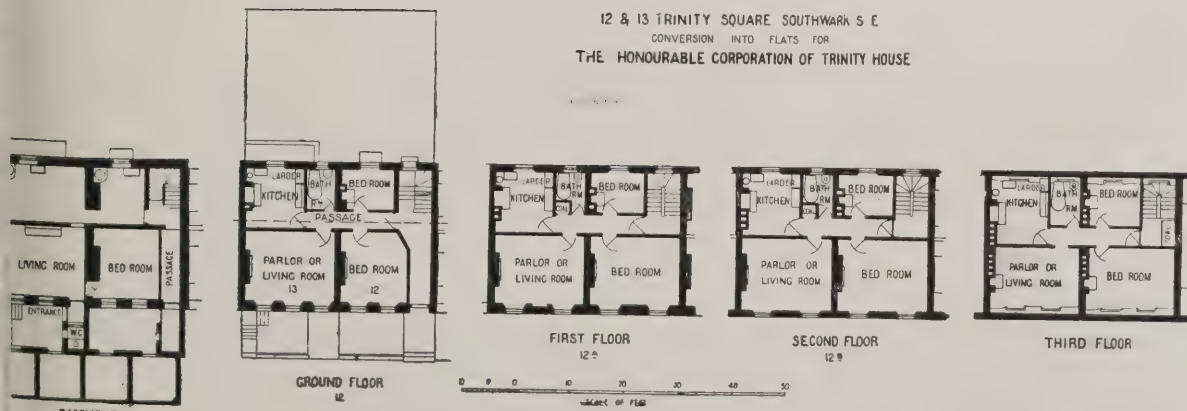
BEFORE ALTERATIONS



66 GLOUCESTER GARDENS W



12 & 13 TRINITY SQUARE SOUTHWARK S.E.
CONVERSION INTO FLATS FOR
THE HONOURABLE CORPORATION OF TRINITY HOUSE



An Analysis of Pre-War and Post-War Prices for Building Work*

By LIEUT.-COL. T. E. COLEMAN, R.E. SERVICES.

(Continued from No. 1285, page 244.)

Percentages for Ordinary Building Items.

KING the ascertained average percentage of increased cost for representative items of labour and materials, and made the necessary adjustment for approximate rates of labour to materials, we are now in a position to determine the percentage of increased cost of the principal items in each of the building trades. A few leading items of building are now examined, and the results stated below:

DESCRIPTION.	Ratio of Labour and Materials.		Percentage of increased cost from Aug. 1914 to June 1919.		Total percentage of increased cost for all labour and materials.
	Labour.	Materials.	Labour only, including 20% for decreased efficiency.	Materials (average).	
PAINTER.— Plastering and planking of excavations, including use of waste of timbering and re- lating and re-lating.	.90	.10	155	210	160
PAINTER.— Lime Concrete, including lowering 10 ft. to 15 ft. to 10 ft.	.40	.60	155	210	188
PAINTER.— Lime Concrete, including lowering 10 ft. to 15 ft. to 10 ft.	.15	.85	150	93	101
PAINTER.— Lime Concrete, including lowering 10 ft. to 15 ft. to 10 ft.	.15	.85	150	89	98
PAINTER.— Lime Concrete, including lowering 10 ft. to 15 ft. to 10 ft.	1.00	—	150	—	150
PLASTER.— Plaster, laid and fixed complete	.30	.70	137	144	142
PLASTER.— Plaster, laid and fixed complete	.30	.70	137	142	140
PLASTER.— Plaster, laid and fixed complete	.30	.70	137	140	139
PLASTER.— Plaster, laid and fixed complete	.33	.67	131	67	88
PLASTER.— Plaster, laid and fixed complete	.33	.67	131	65	87
PLASTER.— Plaster, laid and fixed complete	.33	.67	131	75	91
PLASTER.— Plaster, laid and fixed complete	.33	.67	131	73	92
PLASTER.— Plaster, laid and fixed complete	.33	.67	131	94	106
PLASTER.— Plaster, laid and fixed complete	1.00	—	131	—	131
PLASTER.— Plaster, laid and fixed complete	.80	.20	131	63	117
PLASTER.— Plaster, laid and fixed complete	.30	.70	131	30	67
PLASTER.— Plaster, laid and fixed complete	.30	.70	131	94	105
PLASTER.— Plaster, laid and fixed complete	.30	.70	131	68	87
PLASTER.— Plaster, laid and fixed complete	.60	.40	122	83	86
PLASTER.— Plaster, laid and fixed complete	.60	.40	122	43	90
PLASTER.— Plaster, laid and fixed complete	.60	.40	122	80	105
PLASTER.— Plaster, laid and fixed complete	.60	.40	122	80	105

Portland stone window sills, including all labours and set in mortar	.60	.40	122	43	90
LABOURS ON STONE.— Half-sawn or plain work to beds and joints	1.00	—	122	—	122
Plain work, rubbed	1.00	—	122	—	122
SLATER OR TILER.— SLATING.— Bangor Countess slat- ing, laid to 13 in. gauge	.25	.75	131	100	108
TILING.— Plain tiling laid to 3½ in. gauge, includ- ing fir laths	.25	.75	131	100	108
CARPENTER.— Fir in lintels, wall plates, etc.	.33	.67	124	210	181
Fir framed in floor joists, etc.	.33	.67	124	200	175
Fir framed in roof trusses	.33	.67	124	195	171
Centering for concrete flats, including fix- ing and removal	.33	.67	124	205	178
1½ in. red deal im- ported boarding, and laid complete	.33	.67	124	140	135
1 in. red deal im- ported boarding, and laid complete	.33	.67	124	126	125
1½ in. white deal imported boarding, and laid complete	.33	.67	124	167	153
1 in. white deal im- ported boarding, and laid complete	.33	.67	124	155	145
JOINER.— Deal doors, including hanging, complete	.60	.40	121	180	145
Deal-cased sash frames, etc., com- plete	.60	.40	121	180	145
Fir wrought and re- bated door-frames and fixed complete	.60	.40	121	180	145
FOUNDER AND SMITH.— CAST-IRON.— Cast-iron in furnace bars, sash weights, etc.	.20	.80	134	109	114
Cast-iron in columns of stock patterns, stanchions, etc., and fixed complete	.20	.80	134	113	117
Cast-iron in ordinary socket pipes, 3 in. to 6 in. dia., and fixed complete	.20	.80	134	113	117
Cast-iron in ordinary socket pipes 7 in. to 10 in. dia., and fixed complete	.20	.80	134	114	118
MILD STEEL.— Rolled steel in joists, etc., of stock sec- tions, and fixed com- plete	.20	.80	134	120	130
Rolled steel in com- pound sections, and fixed complete	.20	.80	134	122	124
Rolled steel in stan- chions of stock sec- tions, and fixed com- plete	.20	.80	134	113	117
Rolled steel compound sections, and fixed complete	.20	.80	134	110	115
PLASTERER.— Render, float, and set with fine stuff on walls, etc.	.60	.40	133	82	111
Render and float ½ in. thick, with Portland cement and sand (1 to 2) including smooth trowelled face	.60	.40	133	—	110
Lathing only, includ- ing all labour and materials	.40	.60	131	123	132
Lath, plaster, float, and set with fine stuff to ceilings, partitions, etc.	.60	.40	131	100	119
Plain cornices and mouldings in plaster	.80	.20	131	85	122
Plain cornices in Port- land cement	.80	.20	131	80	121
Limewhite, one coat	.80	.20	131	90	123
Distemper, one coat	.60	.40	131	90	123
Clearcoke and whiten ceilings	.80	.20	131	90	123
Add extra for washing and stopping walls, ceilings, etc.	1.00	—	131	—	131
Add extra for scraping walls, ceilings, etc.	1.00	—	131	—	131

PLUMBER.— Milled sheet lead in flats, flashings, etc.	.33	.67	135	56	82
Milled sheet lead in trough gutters, etc.	.33	.67	135	56	82
Lead service pipes and fixing	.33	.67	135	58	84
Lead soil and ventilat- ing pipes and fixing	.33	.67	135	60	85
¾ in. soldered joints	.50	.50	135	65	100
1½ in. soldered joints	.50	.50	135	65	100
4 in. soldered joints	.50	.50	135	65	100
4 in. dia. cast-iron soil and ventilating pipes, fixed complete, in- cluding joints run with lead	.20	.80	135	113	117
6 in. dia. cast-iron soil and ventilating pipes, fixed complete, in- cluding joints run with lead	.20	.80	135	113	117
GLAZIER.— 15 oz. 3rds sheet glass and glazing	.33	.67	135	256	216
21 oz. 3rds sheet glass and glazing	.33	.67	135	169	158
26 oz. 3rds sheet glass and glazing	.25	.75	135	141	139
32 oz. 3rds sheet glass and glazing	.25	.75	135	109	116
15 oz. fluted or ob- scured glass and glazing	.25	.75	135	150	146
21 oz. fluted or ob- scured glass and glazing	.25	.75	135	119	123
¾ in. rough rolled plate glass and glazing	.20	.80	135	189	178
PAINTER AND PAPERHANGER.— Plain painting	.67	.33	165	100	173
Varnishing with copal varnish	.50	.50	165	55	110
French polishing	.67	.33	165	90	140
Hanging wall papers, including pumicing and sizing walls	.67	.33	165	150	160
Add extra for stripping off old paper, includ- ing washing, stop- ping, and preparing old walls to receive new paper	1.00	—	165	—	165
Preparing and gilding in plain work with best doubles oil gold leaf	.67	.33	165	120	150
Writing plain letters and figures	1.00	—	165	—	165

(To be continued.)

QUESTIONS IN PARLIAMENT.

L.C.C. Housing Schemes.

On August 19 Mr. Gilbert (Southwark, Central, C.L.) asked the Minister of Health whether he could state what housing schemes the London County Council had now in hand; and could he state the approximate number of houses being built at present and the respective districts in which they were situated.

Major Astor, Parliamentary Secretary, Ministry of Health (Plymouth, C.U.): Schemes for the erection of 650 houses at Hammersmith and 81 houses at Norbury have been fully approved by the Ministry of Health, and I understand that work will begin at Hammersmith on Monday next. I am informed that the tender for the houses at Norbury has been withdrawn, and that new tenders are to be asked for at once. Plans for block dwellings to accommodate about 500 people at Tabard Street were approved by the Ministry of Health about six weeks ago, and the County Council hope to go to tender for these buildings very shortly. A site of 147 acres at Roehampton, to be used partly for housing purposes, has been approved by the Ministry of Health, but the plans for the lay-out of the site and design of the houses have not yet been laid before the Ministry. I understand that the Council have other proposals before them, but these have not yet been submitted.

EXTENSION OF PARIS : ARCHITECTURAL COMPETITION.

One of the great works of reconstruction in France is to be the enlargement and extension of the city of Paris, and in this connection an open competition is to be held amongst the architects of all friendly countries. Full particulars have just been issued in booklet form by the Prefecture of the Department of the Seine.

The project comprises two separate and distinct plans. The first fixes the direction, the width and the character of the roads to be constructed or modified, determines the various sites, the extent and disposition of places, squares, public gardens, play grounds, parks, and open spaces, and indicates the places destined for monuments, edifices, and public buildings. The second programme determines the questions of hygiene and archaeology, the height of the new constructions, the distribution of drinking water, the construction of the sewerage works, etc.

The attention of all competitors is especially drawn to the following points: (a) The constant increase of the population of Paris and the consequent necessity of providing public transport services by water, road, or rail, the extension of aerial navigation, the distribution of drinking and washing water, the providing of artificial illumination and motive power, protection against fire and floods, the provision of parks and promenades, and the building of hospitals, cemeteries, etc. (b) The preservation of monuments, and historic or picturesque sites. (c) The outline of the future development of Paris, and the remedying of the evils attending the residence of a large population in a place insufficiently provided with parks, open spaces, and rapid means of communication. (d) It is not necessary that competitors follow the designs of past years. The town of Paris wants personal and new conceptions, and designs, if possible, more practical, more rational and more economical than those which have been considered in the past.

The competition will be strictly anonymous, and all plans submitted must be enclosed in a sealed envelope on which is some device or emblem chosen by the competitor. This device must be also repeated on another sealed envelope containing the name, address, and nationality of the sender, together with a statement of the number and nature of the projects submitted.

The competition will be conducted by a specially composed jury, who will conduct their scrutiny in secret. The jury will determine the classification of each effort only by the vote of a majority.

The following prizes will be awarded:

Section I.—First prize, 30,000 fr.; second prize, 20,000 fr.; third prize, 15,000 fr.; fourth prize, 10,000 fr.; fifth prize, 5,000 fr.

A sum of 10,000 fr. will also be put at the disposition of the jury to be awarded for interesting projects which do not gain one of the above prizes.

Sections II. and III.—First prize, 10,000 fr.; second prize, 7,000 fr.; third prize, 4,000 fr.

A further sum of 6,000 fr. will also be put at the disposition of the jury.

Section IV.—First prize, 6,000 fr.; second prize, 4,500 fr.; third prize, 3,000 fr.

A sum of 6,000 fr. will also be put at the disposition of the jury.

All plans which gain an award will

become the property of the City of Paris, who will have the right to use them as they think fit.

No winning competitor will be allowed to publish his plans, or particulars of the plans without the sanction of the authorities.

The projects of the competitors will be exposed in a specially designed place.

This exposition will be exclusively reserved for members of the jury, but after their decision has been announced it will be thrown open to the public for fifteen days.

All correspondence respecting the competition should be addressed to M. le Préfet de la Seine, Hotel de Ville, Paris.

CORRESPONDENCE.

Working-class Flats.

SIRS,—In your Notes and Comments, page 106, issue No. 1,284, you refer incidentally to the articles on "London Housing," by Mr. Parnacott and myself, and I shall be glad if you will afford me an opportunity of raising one or two points. I would specially direct attention to the need for discrimination in dealing with the architecture of the dwellings which it is proposed to convert into flats. It is more than probable that many dwellings will have been built in the late eighteenth and the first half of the nineteenth centuries, and in converting them there may be a laudable but mistaken desire to improve the street fronts by means of projecting bays, pilasters, and other features frequently misused in modern architecture. I hope this kind of improvement will be avoided, for these houses are as characteristic of London as the stone houses are of Derbyshire or of Gloucestershire, and they are as worthy of as careful handling.

I might mention one other point which, although not directly bearing upon the subject of housing accommodation, is closely related to the present conditions of the inner suburbs of London. I refer to the maintenance and upkeep of existing London dwellings, particularly in residential squares, terraces, and crescents. London is desperately shabby, outwardly at any rate. Even in Belgrave Square, one of the wealthiest districts in London, I have noticed signs of neglect. Like other squares near at hand, and also further afield, in the districts of Paddington, Bayswater, Maida Vale, and Kilburn, the fronts of the houses are faced with stucco. Owing to the nature of the material they require to be examined, repaired, and repainted at regular intervals. Unless this is done the fronts become sordid and dreary. Their maintenance is a question which does not appear to have received the attention it deserves.

Take, for example, Belgrave Square. On the occasion of my last visit, the repairing and repainting of some of the houses had been carried out recently and presented bright and serene fronts, others were in the state of going to be done soon, while others, again, were at their dreariest, badly needing repairs and paint. This condition of dwellings may be found in nearly all the older residential quarters of London, the necessary maintenance being carried out at different times in the most haphazard fashion. The architects of the period, when these houses were built, were alive to the need of giving periodical attention to these stucco fronts.

Messrs. Richardson and Gill, in their admirable book on "London Houses," quote from a clause in the building leases

of the houses at Regent's Park, deals specifically with the particular "The lessees covenanted to rene colouring on the stucco exteriors the month of August every fourth the period being the same for all, a tint to be of Bath stone."

Nowadays it should, perhaps, be every three years. A comparison working, middle, and wealthy class districts in respect of this maintenance is rather interesting. Generally there is little to choose between the condition of the working and wealthy districts, but in the middle class area upkeep appears to be rather better.

G. LL. MORF

An Old Friend with a New Face

SIRS,—I feel that I have found a lost friend. The friend in question your paper, I think perhaps you will me to give you the facts.

Having been absent from England service, and unable to know what should ever again require to practise tecture, it was perhaps a natural thing my interest in architectural public should have lapsed for a time. Upon starting life I quickly became aware fact that I was a back number, that of the war vast strides had been made building, numbers of substitute materials had been introduced, and that I must haul my knowledge in many branches architectural practice. It is astonishing how rusty one gets in the course of or four years' abstention. I feel I ought really to begin my professional training all over again.

One of my earliest acts on ing permanently was to enquire "Builders' Journal" at the bookstall to my sorrow and regret I found it was now being published. I presumed the war had brought my old friend to a timely end. However, I came THE ARCHITECTS' JOURNAL, and found was no other than my old friend "Builders' Journal" in a new and form. Hence the remark at the bottom of my letter.

Your journal has been of great use I am delighted with the plates and reading matter. I welcome the change of title, which enables me to feel that I am reading the paper in the true elsewhere I am no longer taken to be a builder, but am recognised as a professional man reading his professional paper.

I wonder if it has occurred to you there may be a number of architects having been away from the country in the same way as I have been, are unaware of the changes you have made? I venture to suggest that you should let it be known that the JOURNAL now appears in new form and under a new title.

DEMOMOLITION

[We are glad to know of our correspondent's experience, which, as he suggests, probably that of many other old subscribers returning to civil life. We anticipated the drawbacks attending alteration of title, but, realising a very great advantages, did not hesitate to effect the change. It was our intention to notify all architects by means of a circular letter, but, as all the available records and addresses are completely out of date, the plan had to be abandoned. We feel, however, that we might rely upon our friends to make the change widely known, and that we were justified of our confidence in them.]

—EDS. A.J.]



ALTAR DECORATIONS IN ST. PATRICK'S CHURCH, EARLSWOOD. W. H. BIDLAKE, A.R.I.B.A., ARCHITECT.

Standards of Accommodation in Housing Schemes

URING the past few weeks the National Housing and Town Planning Council have received letters from members of their district executive committees expressing anxiety as to the ability of standards in housing schemes being cut down. Mr. Henry R. Aldridge, Secretary of the National Housing and Town Planning Council, therefore, communicated on August 13 with Sir James Carmichael, Housing Director of the Ministry of Health, placing the whole question raised in the letters before him. The following is a summary of the letter from Mr. Aldridge:

It is difficult in dealing with the letters to disentangle facts as to the actual standards made by district committees from fears as to what may be done in the future, but quite unquestionably it exists in the minds of the members of housing committees a real anxiety as to the possibility that they may be required to sacrifice features which they regard as essential to the satisfactory working of schemes which will only be when completed a source of satisfaction to both the local authorities and the Government.

The points in regard to which anxiety seems to be the following: (1) An impression is abroad that the Ministry holds the view that the general building of cottages (as expressed in feet super on the ground floor, walls included) should be greater than 520 ft. (2) That the local authorities are inclined to call upon the Ministry to limit the number of houses to 50 per cent. of the whole scheme; and (3) It is feared that the Ministry contemplate the exclusion of labour-saving devices, adequate cupboards, picture rails, and a number of other features which the women folk, who have to live and work in the new houses, are likely to regard with especial interest.

Dealing with these in the order stated, in regard to (1) I have worked out the standards in super feet of ground floor space (walls included) of the first six types included in the Manual published by the Ministry, and I find that these measurements are roughly as follows:

A No. 1	408 super ft.
No. 2	483 super ft.
No. 3	482 super ft.
No. 4	645 super ft.
No. 5	595 super ft.
No. 6	608 super ft.

In view of these figures, may I submit that if local authorities are to be limited to 500 super ft. on the ground floor of their cottages, then types which they regard as desirable to give character and interest to their schemes will be ruled out, with the inevitable effect that when their schemes are finally completed the results will be relatively poor and disappointing. With regard to the general question as to the need for the adoption of adequate standards, may I state what I believe is the practically unanimous view of the members of the various committees of this Council as to the need for guarding most carefully against any tendencies to lower standards of housing at this stage?

I feel that the real test of the value of the work of this generation in regard to housing will be applied, say, in twenty years time, and it depends on the action now as to whether the verdict then

delivered will be to the effect that in this generation we possessed sufficient breadth of vision and courage in action to open out a new post-war era by building homes in which contented and happy families could live with a consciousness that civilisation and progress meant real things to them and were not abstractions.

With regard to (2) we have a letter from an officer of a local authority which governs a small town in which the housing standards in the past have been of such a character as to secure that during the past twenty years no workman's house has been built without a parlour. In this town workmen hold the view that the provision of parlour types of houses is essential to the maintenance of their standard of comfort and, recognising this, the local authority take the view that if they are required to build houses in which, instead of providing a small parlour, a fair-sized living room and a scullery, they are asked to exclude the parlour in many cases and devote the ground space to a large living room and a scullery, they will not only be lowering the standard of comfort in workmen's houses in their town, but will find in practice that the large living room will be turned into a parlour and the scullery made to serve both as living room and kitchen.

Concerning (3) much anxiety is felt with regard to what is understood to be the tendency to cut out, on the ground of expense, all kinds of labour-saving devices, together with such conveniences as adequate cupboards. The anxiety on this score is increased by the knowledge that the items to be cut out belong to the category of things which women are specially anxious to secure.

In almost every case a strong appeal is made to this Council to fulfil the purpose for which it exists and organise a strong public protest against any cutting down of the general standards of housing as set forth in the manual published by the Ministry and in the Tudor Walters Report.

We believe it will be found that the real service of trouble is to be found in the fact that the prices revealed by the tenders sent in to several local authorities are such as to make your task as Housing Director one of great responsibility and difficulty. I am referring, of course, to the difficult problem which has presented itself, not only in regard to the high prices asked by those tendering for the work, but also in the enormous and almost inexplicable variation in the range of prices, a variation which is, for instance, exemplified in the case of two towns of similar size in the same county (within thirty miles of each other), and in which there has been a difference in the tenders of from £100 to £200 for cottages of the same size and design.

This problem calls for most careful study, followed by vigorous action, directed to secure that the prices paid under building contracts should not only be equitable and just from the point of view of those engaged in the work of construction—whether as employers or building trade operatives—but to the local authorities and to the Government responsible for the raising of the loans to pay the cost of building.

We shall, I trust, at an early date convene a meeting of our joint committees to consider this aspect of the housing question, for our leading members already

recognise that it calls for most careful consideration. Any recommendation that our committees may decide to make will thereafter be forwarded to you with the least possible delay. Meanwhile, in taking any measures to secure that the prices paid under building contracts are fair and equitable to all concerned, and that any elements of inflation are dealt with in a drastic way, we shall regard it as a duty to render to the Ministry of Health and to yourself the most earnest and whole-hearted support.

On August 14 Sir James Carmichael replied to Mr. Henry R. Aldridge as follows:

"Dear Mr. Aldridge,—I hasten to reply to your letter of August 13, in which you express the great anxiety of yourself and the members of your Council as to the possibility of standards in housing schemes being cut down. As you say, the prices revealed by the tenders sent in to local authorities could not fail to add to the difficulty of the problem, and in pointing this out to the officers of the Department I have urged the importance of considering economy in the preparation and execution of schemes. It was never intended that economy should be obtained at the cost of lowering the standard of accommodation, design or construction, but it has been brought to my notice in the last few days that some misconception exists on the subject, and it so happens that I have in the last few days discussed the matter with the Housing Commissioners with the intention of placing the matter beyond doubt. I think that I can best reassure you and your Council by giving you the gist of the conclusions arrived at after discussion.

"I should preface what follows by saying that it is hoped to issue within the next few days the Ministry's model form of contract and tender, and their standard form of specification for houses, to be modified where necessary to secure compliance with local circumstances and conditions.

"(a) Sites should be selected on the principles laid down in the Manual, which can be easily and conveniently developed, and the price will be determined in consultation with the Valuation Department.

"(b) Every reasonable economy of development must be considered in the layout.

"(c) The accommodation and design of the houses must accord with the spirit of the Manual, and the specification must accord with the Ministry's standard specification, modified, if necessary, as above. Tenders and contracts should follow the terms of the Ministry's model forms.

"Where these conditions are complied with, and it is clear that the tenders are based on market rates in fair competition the Ministry will be prepared to approve.

"I need hardly add that I am causing to be examined all possible proposals for securing the provision of houses more economically by studying methods both of construction and administration, and the wider aspects of the question to which you refer at the close of your letter are receiving careful consideration.

"You will see that it is proposed to adhere to the standards of accommodation laid down in the Manual, and not to attempt to secure economy by the elimination of features which make for the convenience of the housewife, and which are customary in the district in which the houses are to be built. . . ."

Scientific Management and Reduction of Costs

THE following report on the work done by the Northern Section of the Committee on Scientific Management and Reduction of Costs was submitted by Mr. John F. Turner to the annual meetings of the Industrial Council of the Building Industry held at the Hampstead Garden Suburb. Mr. Turner was one of the members who could not subscribe to the report issued by the majority of the Committee and published in our last issue:

Before dealing with the objects considered by the Northern Sub-Committee Section of the Committee on Scientific Management and Reduction of Costs, a statement should be made in order that the atmosphere in which the whole matter was discussed could be appreciated. It is unfortunate that the fully considered views of associations and unions attached to the Council were not laid before the Committee, as the reports issued are based on the only views expressed, namely, the opinions of the individual members of the Committee. The whole course of discussion assumed that the majority, if not all, of the operatives in the building trade were of opinion that the causes of restriction of output were those stated by the operative representatives on the Committee; that employers were prepared to admit these opinions as fully justified and were willing to endeavour to find remedies. It was suggested that the best means of reducing costs was by "payment on results" direct to the operatives engaged with individual firms either by means of "bonus" or "profit-sharing." It was stated that trade unions would not allow any form of bonus payable to the individual operative to be introduced into the building trade. Had the employers taken up the attitude that payment by results to the individual must be taken into account in the discussion, and they would have been justly entitled to do so in view of the position taken up by operatives, the conference would probably have come to an end and we would have defeated the object we set out to attain, namely, to find the views on each side on how costs could be reduced. During the discussion on what has come to be known as "the problem," many side issues were introduced bearing more or less on the points involved, and most of these, including proposed pay for summer holidays, were put forward from the employers' section of the Committee. It may be that operatives were only forestalled by employers, but the fact remains that in almost every instance the employers gave the lead.

In the early stages of the meetings the operatives' representatives stated that they were of opinion that output could be considerably increased, but causes of restriction of output were fear of unemployment, disinclination to make unrestricted profit for individual employers, and lack of interest in the industry shown by operatives owing to their non-participation in control.

The remit to Committee was "to consider the question of reduction of costs with a view to ensuring that everyone actively engaged in the building industry would render the most efficient service possible to the industry."

The fear of unemployment suggests either whole-time employment or a wage when unemployed. To reduce unemploy-

ment as far as possible, steps should be taken to endeavour to regularise the demand for building labour by controlling the amount of building work to be carried out in a stated period. It has been stated that the amount of building work carried out for public authorities almost equals the amount of work done for private owners. National and local joint committees should be set up, to whom reports could be sent on the condition of employment in the different areas. The work of these committees would be to press public authorities to push on new building contracts when there were signs of slack periods, and to advise owners to hold back contracts during busy periods. These committees should consist of all sections of the building and allied trades, together with architects and surveyors, so that the interests of all parties connected with the building industry would be fully considered. Sub-committees should be formed of each section of the industry, so that the interests of individual firms should not suffer through the restraint caused by this endeavour to regularise the amount of building contracts.

No matter what steps may be taken to regularise employment, periods of unemployment will arise, during which the operatives request that they should receive a wage. This is a matter that needs careful consideration, as one operative representative has admitted that certain operatives slack off during busy periods, and only put their heart into their work when faced with the fear of unemployment. If this fear is removed these operatives may slack off all the time, unless provision is made to penalise them in some way. The whole point in the disinclination to make unrestricted profit for individual employers is that profit of management should be restricted.

What may be directly behind the lack of interest on the part of operatives, owing to their non-participation in control, has never been explained to the Committee. There have been suggestions of shop stewards and shop committees, but these cannot enter into an industry like the building trade, where there are so many firms employing only one to six men. Trouble would also arise on building contracts let out to different contractors for each section of the contract. If it is suggested that operatives employed with a firm should interfere directly with the management or organisation of that firm's business, then it spells ruin to our industry. A joint committee of operatives and management in each section of the trade should be set up, to whom operatives might send suggestions. If, after full consideration, this committee accepted the suggestion as reasonable they could lay the matter before the firm concerned. Should the management refuse to consider the scheme laid before them by the committee, then the operative could find employment with another firm, or act as he thought proper.

After considering this problem from every point of view, the only conclusion that can be reached is that there can be no "increased production" or "reduction of costs" unless some incentive is offered to both operative and management beyond a fixed hourly, weekly, or yearly wage. Idealists may hold the view that goodwill, enthusiasm, and adventure are sufficient incentives, but while human

nature remains in its present form a material incentive seems to be necessary to draw the best out of an individual whether he be an operative or an employer. I have provided the Council as a whole with a scheme which should be evolved to meet various causes of restriction of output, the following scheme submitted for consideration.

Before this scheme could be applied and before the real earnings of the industry could be appraised, the books of every firm in the industry should be audited by a qualified accountant to prove the value of capital invested in each business and to prove the normal annual earnings that have been made by the firm during a given number of years. An audit should be placed annually thereafter to check for change in value of capital invested, and to prove the real earnings of the firm. Where accountants have audited the books of firms in the building industry there have been two principal standard charges: the wages paid to labour on the usual business oncost charges, such as the wages of non-producing staff, depreciation, rents, taxes, postages, stationery, etc. Any balance left after paying these two charges, including charge for interest on capital, and any wage or cash dividend by management during the period under audit has been reckoned as the earnings of management and has been made subject to income-tax.

It is now suggested that the charges on earnings of industry should be: (1) Wages to labour. These to be arranged under wages or conciliation boards as at present or under any other method that may be arranged later when this or some other scheme has been in operation for a period. (2) Wages to management. These should equal the normal earnings of management which have been proved to be satisfactory of a qualified accountant's original audit. To this should be added an advance to meet increased cost of living, which might be the same percentage on earnings as the management have paid, to meet the same charge on earnings of the operatives employed. In cases where firms have been established for a few years only, or in the case of firms starting business, it may be necessary to fix a wage for management to adjust same according to results. Usual business oncost charges.

After the three charges mentioned above have been provided for, any balance left seems to be the surplus earnings of the industry and should be held in trust by a committee to be appointed, to be used for the following purposes: (1) Payment of any excess profit tax that may be charged to the firm as a firm. (2) Payment of interest on approved capital in any period a firm fails to make sufficient to pay all or part of this interest, excess earnings in a subsequent period should be used to make good this debt. Owing to changes in methods of business suggested by these schemes, the owner of the capital invested in the industry should have the option to claim that the capital value be transferred into debentures issued at a fixed rate of interest per annum. These debentures should be redeemed either by repayments of a proportion of the amount each year or of repayment of the whole amount at a fixed date. The rate of interest to be paid should be at the same rate as has to be offered to stock buyers for cumulative preference

ture shares in industry. (3) Re-
ment of approved capital lost
gh no fault on the part of the man-
ent. (4) Payment to unions to re-
any outlays for payment to their
bers for unemployment, sickness, ac-
t, superannuation, or any other object
ved by the Council. (5) Payment to
gement of a rising percentage on all
ngs of the firm beyond the normal
ngs proved in the original audit. All
ngs gained beyond the normal earn-
of the firm can only arise from the
ased exertions of management and
increased output of operatives. If
increased earnings arise from any
al exertions on the part of manage-
they are surely entitled to share in
plus. If the increase arises through
ased output of operatives addi-
labour is called from management
d work to absorb this increased out-
also increased labour to supervise
increased production. (6) Superan-
of management. (7) Any other
approved by the Council.

incentives offered to operatives in-
the restriction of profits to individual
yers, and the fact that the greater
plus earnings of the industry the
the amount there will be to distri-
among schemes for their benefit. The
ive offered to management is the
percentage on earnings over the
l earnings shown by original audit.
inection with the distribution of sur-
arnings of the industry, joint local
ities of operatives and manage-
should be set up. Any complaint of
ng or restriction of output in any
could be reported to these committees
by operative or management direct,
ough their organisations. Power
be given to the committee to deal
e offenders by withholding the pro-
benefits for such period as they
consider suitable. While this
e has been drawn up to meet, as far
sible, the opinions expressed at the
ngs of the Committee it does not fol-
at the scheme is considered, even
se who sign it, as the best method
creasing production." Some form
vment by result to the individual
ive that could be accepted by both
ives' and employers' organisations
ems the best method.

LOCAL AUTHORITIES AND HOUSING SCHEMES.

Ministry of Health have issued the
ng General Housing Memorandum
with regard to the expenditure of
authorities in connection with the
ation and the execution of housing
s by their own staff:

Minister of Health has had under
ration questions which have been
in regard to the amount to be
d to capital account and the pay-
to be made for professional work in
where State-aided housing schemes
pared and carried out wholly or in
7 salaried officers employed by local
ities. It is assumed that in such
he local authorities will utilise the
ice of properly qualified architects
gning the houses, and that the engi-
g and surveying work involved will
ertaken by members of the respec-
professions concerned.

this assumption the Minister has
l that the following arrangements
ply:

payments to architectural, survey-
r engineering staff temporarily

engaged in a whole-time capacity exclu-
sively for the housing scheme shall be
chargeable to capital account and rank for
financial assistance.

(b) Where permanent salaried officers of
the local authority are employed on the
work, a charge for remuneration for addi-
tional work in respect of the scheme may
be made to capital account and rank for
financial assistance. The amount so
charged to capital account may include
personal allowances to the permanent
salaried officers for any extra work
involved, provided that such allowances
do not exceed one-third of the officer's
normal salary in any one year, and do not
continue for more than three years from
this date unless, in the opinion of the
Minister, there are special circumstances
which justify an extension of the period.

(c) The total amount to be charged to
capital account where the work is done by
the staff of the local authority, temporarily
of permanently employed, shall not in any
case exceed the following scales:

I.—Preparation of Lay-out Plans.

(This work shall include survey, con-
tours, design of roads, and the disposition
of houses and other buildings on the site.)

Area of site in Acres.	No. of Houses.	Amount charge- able to capital a/c per House.	Total amount chargeable to capital a/c.
5	50	s. d. 5 0	£ s. d. 12 10 0
10	100	3 9	16 5 0
25	250	3 0	37 10 0
50	500	2 6	62 10 0
100	1,000	2 0	100 0 0
250	2,500	2 0	250 0 0

If the site exceeds 250 acres in area the
figures in the fourth column above should
be proportionately increased.

II.—Roads and Sewers.

(This work shall include detail plans,
longitudinal and cross sections, quantities,
specifications, supervision, and all work
required to complete the work in its
entirety, except the duties of clerk of
works.)

Area of site in Acres.	No. of Houses.	Amount charge- able to capital a/c per House.	Total amount chargeable to capital a/c.
5	50	s. d. 15 0	£ s. d. 37 10 0
10	100	12 6	62 10 0
25	250	10 0	125 0 0
50	500	8 9	218 15 0
100	1,000	7 6	375 0 0
250	2,500	7 6	937 10 0

If the site exceeds 250 acres in area, the
figures in the fourth column above should
be proportionately increased.

III.—Houses.

(This work shall include design, details,
supervision, and all work required to com-
plete the work in its entirety, except the
duties of clerk of works.)

2½ per cent. upon the first £7,200.

1½ per cent. upon the next £36,000.

¾ per cent. upon the remainder.

Suitable modification of this scale shall
be made for repetition work.

(d) No charge to capital account will be
allowed in respect of the preparation of
schemes which are not approved by the
Ministry of Health.

WAR MEMORIALS EXHIBITION OCTOBER-NOVEMBER, 1919.

The Royal Academy War Memorials
Committee is making arrangements for the
second section of the Exhibition of War
Memorials, to be held at the Royal
Academy in October and November, 1919,
and to consist of works, or designs for
works, in any class of art or craft selected
by the Committee as suitable examples for
the guidance of promoters of war memo-

rials. The Committee desires to make the
exhibition as fully representative as pos-
sible of the various forms which memo-
rials may take, and trusts that artists and
craftsmen, and also owners of suitable
exhibits, will do their utmost to support
the scheme by sending works. It is not
intended to show works with a view to
copying or slavish imitation, but to assist
the public in the selection of suitable de-
signs and of qualified artists, and to
suggest the different forms available for
memorials. A Bureau of Reference will
be provided for supplying applicants with
information regarding memorials, artists,
and craftsmen. Works and designs for
works suitable for war memorials in sculp-
ture or architecture, crosses, decorative
paintings or tablets, brasses, metal-work,
screens, stained glass, rolls of honour in
vellum, etc., tapestry or embroidery, will
be admissible for selection by the Com-
mittee. Each work or design must be ac-
companied by the name of the designer
and of the executant artist. Special com-
mittees will be appointed by the Royal
Academy Committee for selecting the
exhibits from the works sent in. Schemes
which are wholly or largely utilitarian do
not come within the scope of the exhibi-
tion. The Committee reserves the right
of excluding any work which may be con-
sidered unsuitable for exhibition. All
communications should be addressed to the
Secretary, Royal Academy, Piccadilly,
W.1, and intending exhibitors will be sent
forms and labels on application. It is
hoped that the exhibition may be open
towards the middle of October. Each
applicant for forms and labels should
enclose a stamped and addressed envelope
and should be sent in during August.
Applicants should state the number of
labels required. Works must be sent in
on either Monday, September 22, or Tues-
day, September 23, between 8 a.m. and
8 p.m.

WEEKLY HOUSING RETURN.

The report on housing progress issued
weekly by the Ministry of Health states:

New housing schemes to the number of
180 were submitted to the Ministry during
the week ended August 16, bringing the
total number of schemes so submitted to
4,172, comprising about 43,000 acres, or
land sufficient for the erection of about
430,000 houses. Among the new schemes
the largest was from Manchester, to
cover 213 acres. Plans for more than
14,000 houses have been approved by the
Ministry, and progress returns received
from different localities, though incom-
plete, show that work on building has been
begun by local authorities alone in the
case of about 6,500 of these houses. In
addition, a number of schemes promoted
by public utility societies have also reached
the building stage. To meet the urgent
need for house-room, the measures alter-
native to the provision of new houses which
are now being taken by the Ministry are
of two main kinds: (1) The conversion of
existing large houses into flats; and (2) the
use as civilian dwellings of war-service
huts and hostels, camps, and other service
establishments of various kinds. As to the
conversion of existing houses, steps have
been taken to ascertain in every district
the number and character of the houses
available and suitable for conversion.
Very little opposition has been encoun-
tered. The returns are now being
examined, and in a number of cases the
process of conversion has already been
started. London provides most examples
of houses suitable for conversion. More

than 700 such buildings have already been earmarked for immediate attention, and in several houses the work of refitment is nearly completed. With regard to the provision of housing accommodation by the utilisation of war-service establishments, such as huts and hostels, a department of the Ministry has been detailed specially to deal with the question of temporary accommodation generally. It works in close collaboration with the various Government departments which have huts and other such accommodation at their disposal; and arrangements have already been completed whereby no structures which may be suitable or may easily be made suitable for use as temporary dwellings will be disposed of until the Ministry have exercised an option to purchase on behalf of local authorities who may want them. At the same time, local authorities are to be shown the most satisfactory uses to which these temporary structures and establishments can be placed and encouraged, where the housing needs are especially acute, to use them as a temporary palliative of the shortage of house-room. Some of these huts, as for instance those in camps which lie near densely populated areas, may be used in their present position; others it will be necessary to move.

Details of local authorities' schemes dealt with during the week as follows:

Building Sites.

Schemes Submitted.—The number submitted by sixty-five local authorities was 179, bringing the total number of schemes to 4,123, covering about 39,400 acres.

Schemes Approved.—Forty-five schemes were approved, covering 400 acres. This brings the total number of local authorities' schemes approved to 1,196, representing approximately 16,600 acres.

Lay Outs.

Schemes Submitted.—Thirty-seven schemes were submitted by thirty-one local authorities, bringing the total number of schemes submitted to 678.

Schemes Approved.—Twenty-eight schemes, submitted by twenty-seven local authorities, were approved, bringing the total number of schemes approved to 308.

House Plans.

Schemes Submitted.—Twenty-five schemes, representing 847 houses, were submitted by twenty-two local authorities. This brings the total number of local authorities' schemes submitted to 389, representing 20,837 houses.

Schemes Approved.—Twenty schemes, representing 791 houses, were approved, bringing the total number of schemes approved to 216, representing 13,646 houses.

"DAILY MAIL" IDEAL (LABOUR- SAVING HOMES.

The "Daily Mail" are offering prizes of £250, £100, and £50 for the best designs for the labour-saving house, which will be one of the features of the forthcoming Ideal Home Exhibition at Olympia on February 4 to 25, 1920. The house will be built at Olympia either complete or as individual rooms, as may be most convenient. Architects are invited to submit designs for houses for a professional class family who would occupy a house of £1,000 to £1,200 cost at pre-war rates of building, designed primarily for the saving of the time and labour of the occupants. The aspect of the house and the size of the building plot is left to the competitor. A high architectural standard of design is expected, but each design will first be considered from the point of view

of labour saving. The "Daily Mail" reserves the right to publish any design entered in the competition with the name and address of the architect, also to erect houses or individual rooms according to any of the designs, but in the latter event the designer will be employed to superintend the erections, and will be paid for his services in accordance with the schedule of charges published by the Royal Institute of British Architects. Any questions must be addressed, on or before August 30, to the Secretary, Ideal Labour-Saving Home Competition, 130, Fleet Street, London, E.C.4, to whom all drawings are to be delivered before October 4, 1919.

TRADE AND CRAFT.

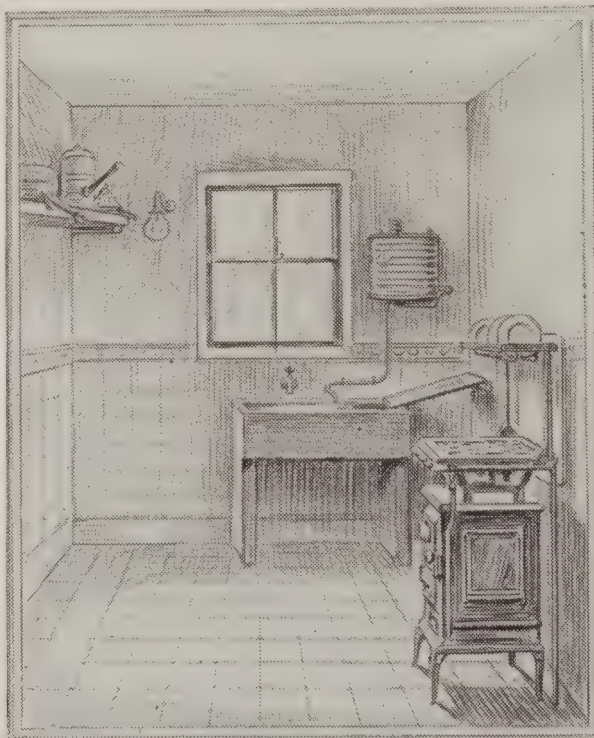
"Gas and the Housing Scheme."

A very complete and interesting book on "Gas and the Housing Scheme" has been issued by the Richmond Gas Stove and Meter Co., Ltd., of 132, Queen Victoria Street, E.C.4, and Warrington, in which the many advantages of cooking, heating, and water-heating by gas are set out together with a full survey of the total cost involved in installing the various schemes propounded. Working costs are also given. The book is prefixed by a statement by the Right Hon. Lord Moulton, G.B.E., K.C.B., F.R.S., on the urgent need for the more scientific utilisation of coal reserves, and points out the material national advantages to be derived from a wider use of gas for domestic requirements. The damage at present wrought by smoke in our large cities is estimated at over £1 per head of the population per annum, and the by-products, such as tar, sulphate of ammonia, oils, aniline dyes, etc., that are lost by the methods of burning coal in open ranges are described as a serious national loss. Conspicuous among the apparatus described is the "Bungalow" gas cooker, which is made in five sizes, and has been used largely during the war for munition workers' cottages, and is fitted in every house in Roe Green Village, erected by H.M. Office of Works.

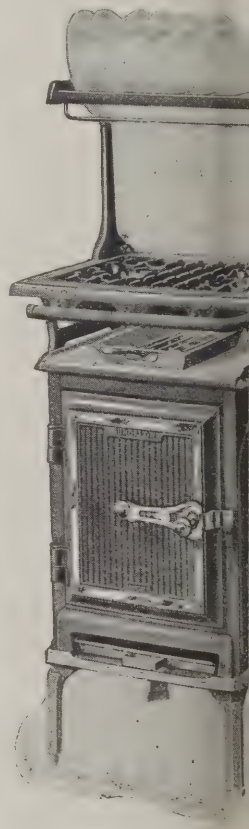
The stove possesses many features of practical utility; the stand with white enamel top (which can be adjusted to any height from 8 in. to 12½ in.) considerably less stooping, whilst the clear space beneath the cooker offers an inducement to the floor clean. The oven is do-cased and packed throughout with retaining material, and lined with enamelled sheets, the former making economy in gas, whilst the latter enables the oven to be readily cleaned. The "Bungalow" is also supplied single or double. The hot-plate is provided with a grill (which can be reversed for broiling purposes), and burners for simmering boiling are placed to accommodate a maximum number of saucepans, etc. An enamelled back-plate prevents the front from becoming splashed, and the enamelled plate on outside top of the stove adds to the general smart appearance of the cooker, and is a further aid to cleanliness. The plate rack is of patent design, each plate being held in a vertical position so that all are thoroughly washed. The "Bungalow" cooker with the Richmond's "Economic" wash-boiler connected to bath, where the latter is on the ground floor is illustrated, and for water supply at sink the "Lyn" boiler is shown. The Richmond Gas Stove and Meter Co. will forward a copy of the book if application is made to their London office.

The Cenotaph.

The Cenotaph, in Whitehall, erected from the designs of Sir Edwin Lutyens, R.A., F.R.I.B.A., was covered with coatstone, manufactured by the Coatstone Decoration Co., of 9, James Street, Gray's Inn, W.C.1. The actual construction of the Cenotaph, stated in our issue 1,282, was carried out in fibrous plaster in the workshop of Messrs. G. Jackson and Sons, Ltd., Rathbone Place, London, W.1.



Modern Scullery with Richmond's "Bungalow" Cooker and "Lyn" Sink Boiler with automatic control.



Richmond's "Bungalow" Adjustable Stand and Patent Sink and Back Plate

The Week's News from Far and Near

Baths before Parlours.

the Norman Cross, Huntingdonshire, the houses are to be built without a parlour, but with a bathroom.

Electricity for Willesden Houses.

The Willesden Council has asked its electrical engineer to report as to electric lighting and heating apparatus for new houses.

War Memorials for Wimbledon.

Wimbledon's War Memorial is to take the form of a monument, houses specially designed for disabled ex-Service men, and special accommodation for children of ex-servicemen "free for all time." The scheme is estimated to cost £75,000.

Durham War Memorial.

The proposal to erect a Durham County War Memorial has resulted in the decision to erect a monument within the precincts of Durham Cathedral. Before deciding on the design an appeal for subscriptions has been issued, Lord Durham being the patron.

Famous Island for Sale.

The Duke of Buccleuch has decided to sell by auction Piel Island, in Morecambe Bay, together with the castle built in 1135 by Abbot of Furness, the public-house, cottages, boathouse, and landing. The island was used by the Norse-

Picture Palace at Whitley Bay.

The contract has been placed for the reconstruction of the old Coliseum Theatre (the adjoining properties in Whitley Bay, and York Street, Whitley Bay, into a picture cinema, and it is expected that the building will be opened to the public by the end of September.

Rugby Building Trade Apprentices.

To encourage boys to become apprentices to the various branches of the building trade the Rugby Master Builders' Association have agreed to pay the following rates of wages: Ages 14 to 15, 3½d. per hour; 15 to 16, 4d.; 16 to 17, 4½d.; 17 to 18, 5d.; 18 to 19, 5½d.; 19 to 20, 7d.; 20 to 21, 8½d. Apprentices are also paid for all holidays.

Architectural Appointment.

Mr. R. W. Sampson, of the Manor House, Sidmouth, has been appointed architect for the three housing schemes of the Bournemouth District Councils of Sidmouth, Bournemouth, and Ottery St. Mary. Mr. Sampson was responsible for the former housing scheme of the Sidmouth Urban District Council, when forty-eight houses were erected, in 1914-16.

Housing in Surrey.

At a meeting of the Surrey County Council, Sir Arthur Chapman reported the result of a recent private conference of the authorities in Surrey on the subject of housing in the county, from which it appeared that thirty-five authorities proposed to build 4,973 houses, an average of 140 per authority, the estimated average including site, varying from £450 to £900.

Flats in Army Huts.

The experiment of the Hammersmith Urban Council in converting army huts into civilian dwellings has been criticised on the ground that the proposed rent of 10s. per week for a three-roomed "flat" is too high. There are twelve huts, each of

which has been divided into three flats. The flats will have a living-room of about 15 ft. by 12 ft., a good-sized kitchen, and a large bedroom. Electric light has been fitted in all the rooms, which are heated by hot-water pipes. There is a central bath and washhouse, with six baths for men and six for women. Cold water has been laid on to the kitchens. The huts are situated close to the White City.

Sale of Government Wooden Huts.

An auction of wooden huts, which have been used as houses and hostels at Gretna Munitions Factory, has been conducted for the Government Disposal Board. The prices realised for the huts, fully equipped as six-roomed houses, were from £180 to £200 each, while the larger huts used as hostels made £850 each. The total realised during the day by the sale of ninety huts was £10,300.

Housing Conference at Hull.

In order that the housing question may be discussed from a Labour standpoint, Hull Trades' and Labour Council have decided to call a conference and to invite delegates from the Tenants' Defence League, the Co-operative Women's Guild, Railway Women's Guild, the Co-operative Society, the various branches of the trade unions and local Labour parties, and the two organisations for discharged service men.

Flats for Southwark.

The Southwark Borough Council have approved of the Minister of Health taking steps to acquire, convert, and repair any dwelling-house or other buildings in the borough capable of conversion into flats or tenement dwellings for the accommodation of the working classes, provided the Ministry, after consultation with the Housing Committee and officials of the Council, consider the premises suitable for the purpose.

Beckenham Housing Scheme.

The site decided on for the major housing scheme of the Beckenham Urban District Council is on the west side of Upper Elmers End Road, abutting upon the Croydon Road. Valuation of the estate has been accepted at £8,750, which includes compensation to tenants in respect of plots and holdings, and the formal contract of purchase has been agreed upon. The estate is about thirty-seven acres in extent.

Shropshire War Memorial.

The Lord-Lieutenant of Shropshire, Lord Powis, is endeavouring to raise £60,000 to £70,000 to provide a war memorial. The scheme includes a new county hospital. For a memorial in Shrewsbury the committee have accepted the design of Mr. George Hubbard, F.R.I.B.A., for a dome supported by coupled columns enclosing the figure of a private of the King's Shropshire Light Infantry in the act of throwing a bomb.

Housing By-Laws and Army Huts.

The difficulties arising under existing by-laws in connection with the conversion of army huts into dwellings are dealt with in Section 28 of the new Housing Act, which empowers the Ministry of Health to make regulations which will permit local authorities to consent to the erection and use for human habitation of any buildings which will be in accordance with the

Ministry of Health regulations, irrespective of local by-laws. If any person feels aggrieved by the neglect or refusal of the local authority to give such consent, or by the conditions on which such consent is given, or as to the period allowed for the use of such buildings for human habitation, he may appeal to the Ministry of Health. This section of the Act should remove one of the principal hindrances to the erection of these temporary buildings.

Furniture Trade Dispute.

The Joint Industrial Council of the Furniture Trade have agreed to deal with the present dispute in the trade with a view to arriving at a satisfactory settlement. A conference will be called of employers and operatives of all the places where both the National Federation of Furniture Manufacturers and the furniture trade unions are represented. A sub-committee of four a-side has been appointed to meet at the Ministry of Labour to arrange the details of the conference.

Blackburn's New Houses.

The proposal of the Blackburn Corporation to erect 136 houses in the Cherry Tree district was discussed at a meeting of the local trades and labour council. It was pointed out that it was the intention of the corporation to erect 500 houses on three different sites. Several speakers urged that washhouses should be provided for in the scheme. Attention was also directed to the suggested height of the rooms, namely, 8 ft., one delegate pointing out that stables were compelled to be 9 ft. in height, while another member stated that they would find no gentleman's house with rooms less than 11 ft. 6 in. high. This point is surely of no material consequence, since a height of 8 ft. is quite sufficient.

Tredegar Housing.

Tredegar Urban District Council, at a recent meeting had before them the report of Mr. J. Rice Jones, district Inland Revenue valuer, regarding the valuation of the proposed housing site at Ash Vale, near Nantybwhc Station. The area of the site is just over fifty-five acres, on which it is proposed to erect 500 houses. The purchase price of the surface, as recommended by Mr. Rice Jones, was £4,200, and he also reported that the Tredegar Iron and Coal Company and Lord Tredegar were prepared to accept £1,200 for the minerals underneath the site. The matter was deferred pending a definite reply from the Tredegar estate respecting the gift of a recreation ground, and a deputation was appointed to wait upon the estate agent on the matter.

Glasgow Housing Exhibition.

The response to the competitions arranged by the Glasgow Corporation in connection with the Housing and Health Exhibition to be held in Kelvin Hall, Kelvingrove, in October next has been most gratifying. Designs and models from architects and others were sought for laying out the corporation lands at Kennyhill, Riddrie, Blackhall, and Lethamhill for 9.1.3 acres of corporation land at Coplawhill, for 167½ acres of corporation land at Mossbank, Bellahouston; for 520 acres of land situated between Shettleston and Tollcross not belonging to the corporation, and partly without the city, and models of cottages and tenement blocks.

The last day for receiving designs and models has now passed and the work of adjudicating will shortly be commenced. The adjudicators are Professor Abercromby, of Liverpool; Mr. James Thomson, city engineer, Dundee; and Mr. James Nisbet, master of works and city engineer, Glasgow. Through the generosity of a Glasgow citizen, prizes will be awarded for the different competitions, the premiums varying from £400 to £25. All the competitive designs and models will be on view at the Housing Exhibition.

A Partnership.

Mr. George P. Bankart announces that he has established himself in his old studios and workshops at Bromsgrove, Worcs., in partnership with Mr. Henry J. Ludlow, his former partner.

Bradford Builder's Death.

The death has taken place at Thorneycroft, Ben Rhydding, of Mr. John Henry Dawson, forty-four, chairman of directors of Messrs. Wilkinson and Dawson, Ltd., builders, etc., of Bradford and Ben Rhydding. He was prominently associated with the Bradford Master Builders' Association.

Swansea's Housing Scheme.

Official sanction has been received by the Swansea Corporation for the first part of their housing scheme, and work will be begun without delay. The scheme provides for the erection of 3,000 houses, mostly on the corporation's own estate at Town Hill, which is valued at £2,000,000—the second richest municipal estate in the country. The cost of the houses to be built is about £800 each.

Darlington Housing Schemes.

A special meeting of the Darlington Town Council was held recently, on the requisition of five members, to reconsider a decision to set up a separate architect's staff and department for the housing schemes of the town. A deputation of the local architects had waited upon the Housing Committee, and pointed out that during the war they had suffered considerably in consequence of the cessation of building operations, and they suggested that the work should be entrusted to them. After some discussion it was decided not to set up a separate department, but to employ local architects. This is obviously a wise decision.

Ministry of Health and Housing Schemes.

Major Astor, Parliamentary Secretary to the Ministry of Health, addressing the Parliamentary Housing Committee recently, said he hoped the stage was approaching when tenders for houses would be rapidly accelerated. The Department were considering new forms of construction to cheapen the cost of housing schemes. In the autumn they would find more and more that one of the crucial factors was labour. He felt certain that leaders of Labour could be counted on for energetic assistance both in expediting the erection of houses and in keeping down the cost. Sir Kingsley Wood said that complaints had been made that the Ministry had occasionally delayed the acceptance of tenders. In many cases, he said, this delay and the consequent scrutiny had led to the effecting of valuable economies. Tenders for 3,200 houses, which had been examined, amounted in the aggregate to £2,371,000, or an average of £740 a house. The estimated saving which had been effected owing to modifications suggested by the Ministry was £212,850, an average of £66 10s. a house. The average cost had thus been

reduced to about £670 a house. A similar scrutiny had been made of four lay-out schemes amounting in the aggregate to £27,350, and a reduction of £3,162 had been effected.

Port Glasgow Housing Scheme.

The house-building scheme commenced by James and Henry Lithgow, ship-builders, Port Glasgow, at Clune Park about three years ago is now so far advanced as to admit of eleven tenements of 109 houses being let at the end of the present month. The scheme includes over 440 houses (forty three-apartment and 400 two-apartment). These have been erected on the ground formerly occupied by Port Glasgow Athletic Football Club. The estimated cost of the buildings is £250,000, and in order that the houses may be let at reasonable rents the promoters have decided to write off £150,000. The rents, which have been fixed by a Government official, will be: Room and kitchen houses, about £18; and two-room and kitchen houses, about £24 10s. When completed the houses will provide accommodation for about 2,220 people. Messrs. Lithgow have architects engaged preparing plans for house building on a site on the uplands to the south of the town.

The Essex County Architect.

A special meeting of the Essex County Council has been held to consider a report from the General Purposes Committee with reference to the resignation of the county architect, Mr. G. T. Forrest, who has been appointed architect to the London County Council. The Committee recommended: (1) That the request of Mr. G. T. Forrest to be relieved of his duties at the beginning of October be acceded to; (2) that the salary of the county architect be fixed at £1,000 a year, and (3) that the vacancy be advertised, the committee to submit the names of three candidates to the council. Alderman C. J. Musgrave, chairman of the committee, moving the adoption of the report, said that although Mr. Forrest had only been with them for about five and a half years, they would agree with him in saying that Mr. Forrest had acquired the confidence of those members of the council who had to come in very close contact with him in the performance of his duties. But whilst regretting the loss of his services, they congratulated Mr. Forrest on obtaining an appointment which was one of the first in the profession to which he was attached. After a lengthy discussion the report was adopted.

Ypres War Memorial.

To commemorate the quarter of a million British soldiers who fell during the war in the Ypres sector, the Church Army has decided to erect a permanent memorial. This is to take the form of a church, on the walls of which will be engraved the names of all the military units which were engaged at various periods of the war in the salient. The names of the men who fell in the salient will be recorded on tablets and preserved in the archives of the church. The architecture of the church will probably follow the lines of the cloister of Ypres Cathedral, of which a beautiful fragment is still standing. Some well-known architect will be asked to prepare designs in consultation with the chief architect of the city of Ypres. The scheme also includes the erection of a hostel, in which accommodation and assistance would be provided for pilgrims visiting the graves of our men. The city authorities of Ypres welcome the scheme, and have

promised to present a suitable site for the purpose, and an appeal is being made for the sum of £25,000 to enable the church and adequate hostel to be erected and finished.

Costly Yorkshire Housing Scheme.

At a meeting of the Whitwood (Yorks.) Urban Council, it was reported that the Ministry of Health had written stating that the Council's proposed housing scheme was far too costly, and suggested alterations to be carried out. Among the alterations suggested were the reduction in the size of the roofs, and there would be no plaster on the scullery walls, bricks to be colour-washed. Also there was to be no firegrate or cupboards in the scullery, and the quality of the materials used had to be reduced. The Council decided not to accept the alterations.

Huts for Liverpool.

The Liverpool Housing Committee, considering the possibility of utilising huts at the American camp at Kew Green, Ash to relieve the housing congestion, have decided to erect more permanent brick buildings on the site. The estimated cost per hut for the whole of the work, including site clearing, laying on water, repairing and tending the electric wiring, and building work in connection with the conversion, is £300; to this must be added the cost of each hut. It will be possible to convert 500 huts into houses on this area, so that the cost would amount to about £175,000, which, if approved by the Local Government Board, will be met out of the National Exchequer.

OBITUARY.

Sir W. H. St. John Hope.

Sir W. H. St. John Hope, the authority on archaeological and architectural subjects, has died at his residence, Gale End, Great Shelford, near Cambridge. He was made a Knight of the Order of the Bath in 1914, and a Knight of the Order of St. John of Jerusalem in 1915, after having held the positions of Director of the Royal Archaeological Institute and assistant secretary of the Society of Antiquaries. His knowledge of architecture and heraldic work made him one of the best-known authorities on these subjects, and his earlier publications included "Stall Plates of the Knights of the Garter" and "The Abbey of St. Mary-in-Furness." Later, in addition to numerous papers on archaeological subjects, he was the author of books on "Heraldry for Craftsmen and Designers" and one on the architectural history of Windsor Castle. Sir W. Hope was one of the first to protest against the restoration of the old monastic buildings and churches of England.

COMPETITIONS OPEN

September 1.—Armagh Electric Lighting Scheme.

The Armagh Urban District Council invite electrical engineers to supply plans, specifications and estimates for an electric light and power scheme for the district. A prize of £20 will be paid by the Council to the engineer who submits the most acceptable scheme. The prize-winner will be appointed engineer at the recognised rate for such work. Plans, specifications, and estimates to be sent to the Town Clerk, September 1.

September 30.—Bridlington: War Memorial.

The War Memorial Committee invite designs for a war memorial. Preliminary drawings to be sent to the Secretary, £100 and £50. Sending-in day, September 30. Particulars from the secretary, 79, Quay Road, Bridlington.

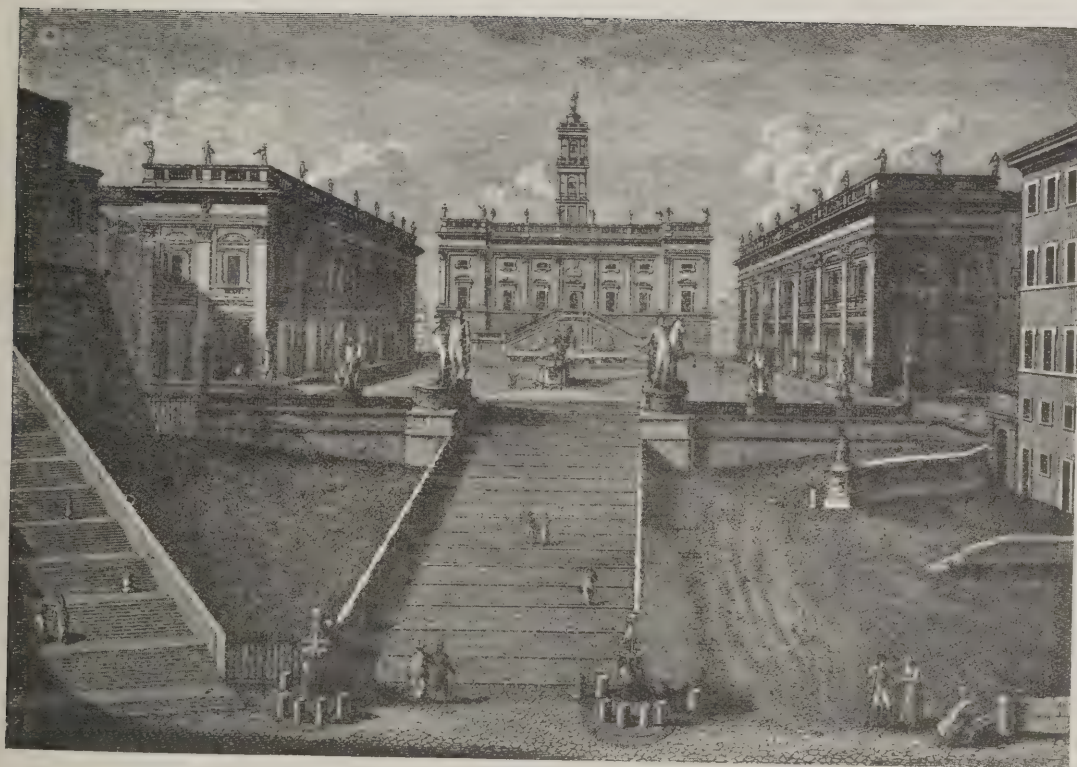
Architects' Journal
Tuesday, Sept. 3, 1919

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Volume L. No. 1287

THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



VIEW OF TEMPLE OF MONT CAPITOLIN, ROME.
(From the engraving by Acquarini.)



THE MARKET PLACE, MADAIRA.

THE ARCHITECTS' JOURNAL

Joint Editors: A. E. RICHARDSON, F.R.I.B.A., and J. FINDLAY McRAE.

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"The Omniscient Architect"

It would seem that a system of architectural education in the lines of that obtaining at the French Ecole des Beaux-Arts is likely to receive considerable support in this country. The war has by no means killed the scheme which started so modestly in Wells Mews a month or two before the outbreak; the original members are reorganising, and the project appears to develop rapidly under the energetic patronage of Mr. Davis, who has the opportunity of laying the advantages of his case before both the profession and all and sundry. By this system of isolated transplantation, however, the outstanding advantage of this particular system of training may be lost, for the real importance of the scheme arises from the fact—implicit in the very nature of the institution, School of Fine Arts—that in the architectural student finds himself a member of the State educational system, whose pupils include painters, sculptors, architects, and musicians. Thus he is placed at the outset of his career in continual proximity to his fellow artists. If, as it were, he were guaranteed in advance that the education of the architectural unit of this organisation would accomplish, or at least contribute to, the shattering of the isolation in which the architectural student of to-day lives and has his being, it would be welcomed on this account alone, apart from the other advantages which it may quite possibly possess; and similarly such a guarantee would outweigh any possible disadvantage. The successful architect of to-day should be a man of parts, protean and versatile; and younger men of the profession should be encouraged with the various movements and aspirations of the other branches of art, but of all the contemporary activities in which architecture has its place, which it does indeed in most of them. The inevitable plethora of leagues, societies, and committees exists to-day, which may be likened to the buds of spring time after a drearily harsh winter. Each has a somewhat different nature, and a slightly different purpose, and their number increases rapidly. Some, indeed, spring up in the night with extraordinary rapidity, only to disappear at once, having achieved nothing, so that "the place thereof is left no more." Others may have short but powerful careers fulfilling the purposes which called them into existence, and some again may develop more leisurely, but with a more sturdier growth, and surviving the early years of immaturity win for themselves a lasting place in the scheme of things. There is a place for the architect in most of them. In matters dealing with art the connection should be obvious. Most of the arts are subservient to architecture, and even music, which is not, requires a building for its performance, having very special qualities whose correct method of attainment is even as yet by no means a matter of certainty. The drama and theatre craft are receiving particular attention just now, and many organisations exist, which have as their object the improvement and reform of stagecraft generally; yet no

reform can be vital which does not affect the design and building of the theatre, neither is it the intention of the promoters of these organisations that this aspect should be neglected; yet to-day there are no architects who interest themselves in these things, so completely out of touch have they become with the life and activities around them. No less a person than Inigo Jones interested himself very intimately in the matter of scenery-designing, so that precedent exists if it be deemed necessary.

The position of the architect with regard to matters of health, and the very definite contribution which he has to make towards this vital aspect of national life, formed the subject of a leader a few weeks ago; indeed, to assert that the health of a nation must, for the most part, depend upon the state of its houses would be an unpardonable platitude, were it not that this fact is only just dawning on many public authorities, who have hitherto been content to confer only with their medical officer in cases where his expert advice should have been supplemented by that of the architect.

Public morality is another matter depending, among other things, upon the question of housing. Furthermore, there is little doubt that ugly and squalid surroundings are conducive to crime, and that the provision of adequate and suitable places of amusement and of for-gathering, of open spaces and the like, is one of the surest ways of combating vice and of checking its growth. Thus it would not be difficult to show that in a town which had received due architectural consideration the moral standard would be commensurately higher than in one where, although the individual buildings might have been designed by an architect, yet the growth had been a matter of haphazard, no architect had been present at the various deliberations which had led to it.

No less apposite should be the architects' contribution on councils concerned with the more economic methods of production and distribution; buildings for the centralised sorting and handling of goods are already receiving his attention. So it will come about that to meet new requirements, new types of buildings will be devised, and it is well within the realms of possibility that the development of aerial transport may call for similar changes in architecture to those which have occurred in our industrial life during the last century as the result of the invention of mechanical transport; for is it not conceivable that in the future special buildings will be required in our towns to accommodate the landing of aircraft? The architect must be alive to this possibility, trained to grapple with the problems of the future; equally a man of vision as of action.

There exists, indeed, scarcely a branch in the complicated and intricate cosmos of our modern civilisation to which the architect, by reason of his special training—which must, if thorough, combine such manifold diversities in arts and science—cannot present some valuable contribution: for the science of building occupies such a vital place in the national life, and has

its counterparts in all its organisations—that it is now a veritable microcosm.

Despite the sporadic anti-architect campaign in the Press, which is but the result of this lamentable attitude of aloofness, and does not truthfully epitomise the mind of the public, no moment is more opportune than the present for the architect finally and absolutely to break down the barriers which hold him back from his rightful place in the national life, and to seek the arena of contemporary life, teeming with its manifold activities. He could, if he would, be the hero of the moment. The public are indeed willing, even anxious, to accept him—accept him at his own valuation, if he will only step forward and reveal himself to them. Architecture as a

profession has shrouded itself in mystery, so that the public have but the vaguest and most fantastic conception of its functions. A good beginning has been made; the profession is ably represented in the House of Commons, and recently one of its well-known members attained to the dignity of Senior Sheriff. But if the spirit of apathy or modesty—whatever the cause—result is pernicious—is to be finally laid low, our system of education must inculcate to the student a broader conception of his duties; and if the Beaux-Arts system does so, then let it be welcomed. Let the day dawn when the architect struts about swollen-headed with his importance, instead of hiding his light behind a bush. But both extremes are equally for avoidance. H.

Notes and Comments

Austrian Architects' Impudent Appeal.

IN publishing, last Thursday, the correspondence between the President of the Royal Institute of British Architects and the President of the Society of Engineers and Architects of Vienna, "The Times" supplies the heading, "Austrian Architects' Impudent Appeal. Weak British Reply." That, we fear, is a very clear indication of what the general public will think of the incident, and we must confess to very considerable difficulty in dissenting from the verdict. The Central Powers are leaving no trick untried to secure remission or mitigation of the penalties of their crimes, and the impudence with which they persist in this course is typical and unmistakable. If the President of the R.I.B.A. had closed his reply with the mild but dignified rebuke that Austria had raised no protest against their allies' wanton destruction of noble works of architecture, and if he had added a much-needed corrective of the preposterously immodest and, in the light of recent history, utterly discredited claim to a "high degree of culture," we should have been spared the necessity for protesting that the time has not yet come for amiable talk about resuming relations with German-Austria to be easily tolerated by a public in whom the memory is fresh of foul deeds that it would be wicked to palliate or condone. Upon a people who could countenance such deeds and then unabashedly boast of their "high degree of culture" the President's amiability—in itself a charming thing—is worse than wasted; they will receive it contemptuously, as a sign of weakness and as a condonation of crimes of which they are obviously impenitent, regretting nothing but the consequences that they have brought upon themselves.

The New Southwark Bridge.

Southwark Bridge, on which work is being resumed, will be "all-British." A representative of the contractors, Messrs. William Arrol and Co., Ltd., said to a newspaper correspondent, "We are using British granite, which I think is the best in the world, and the iron will be all-Scottish." No doubt the granite is in the same category as the Portland stone of which an eminent engineer expressed his confidence that it would endure till the crack of doom and the day after. Reinforced concrete is still more lasting, unless there is some hitherto unascertained limit to its peculiar property of becoming stronger with age. This claim of ever-increasing strength has been disputed; but consider the exceeding toughness of Roman remains—portions of the old London wall, for instance, could not be broken with pick or sledge-hammer, and were difficult to disintegrate with high explosives. Southwark Bridge must needs be very strong, for an extraordinary weight of traffic, and an unprecedented amount of wear-and-tear, are prognosticated for it. For one thing, the omnibuses that will cross it will be much larger. Samples that are being run at certain seaside resorts are half as large again as those to which Londoners are accustomed. Perhaps the new type of omnibus has been devised with an eye to the housing problem, primarily to provide improved transit for the relief of congested areas, and ultimately to afford much more "commodious dwellings" than those alleged "bungalows" that have been cobbled from decayed tram-cars or demolished railway carriages.

Old Southwark Bridge.

So long has the old bridge been demolished that its appearance is almost forgotten even by those who passed it daily in the train that is conducted over the Thames by the hideous railway bridge—the twin monstrosity of that at Charing Cross—connecting London Bridge Station with Cannon Street. John Rennie, engineer, built it, and James Elmes, architect, thought its centre arch magnificent. Elmes states that the chord or span of this arch was 240 ft., "its versed sine or height

24 ft., and the diameter of the circle of the curvature at the vertex or crown of the arch 624 ft., the side arches being in span." The arches were composed of eight ribs of masses of cast iron, in the form of the voussoirs of bridges. These ribs were riveted to cast iron diagonal struts to prevent racking. The frames of the arches were 6 ft. deep at their vertices, and the extrados of the voussoirs extended to 8 ft. at the springing of the arches. Many single pieces of the framework weighed 10 tons each, and the total weight of the iron employed in the construction was between 5,000 and 6,000 tons. The bridge cost about £80,000, and Elmes thought it as elegant in its form as it was solid in its construction. Admiral Lord Keith laid the first stone on May 23, 1815, the preparatory works having been begun on September 23, 1814. Elmes does not state that Walker and Rotherham, were the founders, and Jolliffe and Banks the contractors; nor does he relate the somewhat theatrical incident that the bridge was opened by lamplight, on March 24, 1816, as the clock of St. Paul's Cathedral tolled midnight. In any case, in dealing with Waterloo Bridge, Elmes has a curiosity that is worth recalling—namely: "Waterloo Bridge was designed by the late John Rennie, from the designs, it has been said, of the late Mr. Dodd; but that great schemer only projected the work, and took the design from Perronet's bridge over the Seine at Neuilly, near Paris." This ought to be true, if only for the sublime impudence of the thing—building Waterloo Bridge from a design stolen from a Frenchman! But, no matter, the design may have been obtained or suggested, the result is beyond question the finest bridge in existence; and there is little likelihood that the new Southwark Bridge will for a moment place that proud pre-eminence in the slightest doubt.

The Trades Union Congress and the Housing Question.

At the Trades Union Congress, which opens at Glasgow on September 8, the housing question is raised in three resolutions of which the most interesting is that which urges that it be compulsory for local authorities to carry out adequate housing schemes, and that the Government should make housing grants free of interest to local authorities. A remarkable feature from which few, if any, Trades Union resolutions are exempt is their Draconic severity, and the terms of this present resolution are certainly not remarkable for sweet reasonableness. Judge by the extreme bitterness of their manifestoes one might suppose that the trades unionists had a morbid gust for quinine, myrrh, quassia, and aloes, and an austere pride in harshness and severity of expression. No matter how robust his virtues may be, the trades-unionist can hardly be accused of mealy-mouthed urbanity; although it may be ungrudgingly admitted that the secretary of the Congress, the Right Hon. C. W. Bowerman, M.P., is himself the pink of politeness; he has been always a great moderating force in the Labour movement, his choice for this post is a very hopeful sign. Labour's bark is worse than its bite. As further evidence of this soundness of heart, there is the letter addressed to Mr. Bowerman by Mr. J. T. Brownlie, chairman of the executive council of the Amalgamated Society of Engineers: "Unless productivity can be rapidly increased," Mr. Brownlie writes, "there can be nothing but political, moral, and economic chaos. . . . No economic policy will bring food to the stomachs, or fuel to those hearths, that does not secure maximum production." Mr. Bowerman himself is fully alive to the gravity of the situation, and is convinced that at Glasgow it will be met by some definite proposal. This should be the final exit of "ca' canny" and of all other forms of restiveness from output. It should also mean, as Mr. Adamson, the leader of the Labour Party in the House of Commons, was pronounced to remind us, the vastly increased use of labour-saving machinery.

machinery, and a more enlightened conception of scientific management: all which considerations are intimately associated with the building industry, which, in particular, has been more any other the happy, or unhappy, hunting ground of the "canny" idiots.

The State Standard for Housing.

The official specification standardising the requirements in local housing, issued by the Ministry of Health last Wednesday, leaves little to choice, chance, or chicanery. It goes fully, if not exhaustively, into all the details of design, construction, and equipment. This is all very well as indicating minimum requirements; but there is strong reason to think that there is here yet another instance of the minimum also the maximum. An official of the Ministry is quoted as having said to a newspaper representative: "We do not by any means intend to supply luxury houses at the expense. Some local authorities have been cut down and rebuked by the Ministry. . . . It would tend to obviate the necessity of getting plans of schemes passed if local authorities conform as nearly as possible to the standards laid down by the Ministry." This is the broadest possible hint not only to local authorities, but also to the inventors and manufacturers of domestic fittings, who must shape their course in accordance with his chart of cheapness. As a rule, local authorities are open to the charge of wilful extravagance than to that of want and unwise expenditure. So far as the Ministry of Health is resolute to check these faults, it is well; but Government should share in the expense of housing does not altogether commend the uncompromisingly dictatorial attitude of which local authorities are complaining rather freely; and, as the adherents to the newly resuscitated doctrine of strict economy, the various departments are attempting to proselytise, not to prosecute, with all the furious zeal of the recent past.

Pisé de Terre Again.

In the current issue of the "Spectator," Mr. J. St. Loe Strachey publishes his architect's report on an experiment in pisé de terre construction. From this report the one certainty emerges is that mud walls are cheaper than those that are constructed of proper material—a conclusion that needed no argument nor proof. Whilst giving Mr. Strachey full credit for excellent intentions, we must reiterate our protest against the employment of so mean a material for the housing of the poor, who, however humble their circumstances, come of the same race.

"Maniacal Architectural Futurists."

A surveyor to a rural district council has discovered a strange clique which he describes picturesquely as "a clique of self-named maniacal architectural futurists." These queer creatures possibly have bodily existence, and could no doubt be detected by ditto ditto architectural (or as we should personally prefer to say, unarchitectural) presentists and pastists, the waste of all their energies in marking time, the latter for the good old days when the workers' dwellings were of mud and there was "none of this fuss" about sanitation. It was at a meeting of the Chertsey R.D.C. that this phrase was quoted. Captain Beeney, the surveyor to Chertsey Council, in support of his contention that, in the matter of housing, local authorities were hampered by a whole lot of Government officials, read a letter he had received from the surveyor to another district council, who complained that the country has "trusted itself" to this alleged egalitarian clique. This wild outburst should be very welcome to the reformers, who will recognise in it the abuse that is the penalty of success. Besides, it is a sort of uncongruous compliment. "Futurists," construed literally, and shorn of the surveyor's decorative adjectives, is by no means a term of reproach, as the architect's grammar certainly includes all shades of mood, as well as most of the moods, and, alas! some of the emotions; but, on the whole, the word "Cubist" is more related to the subject, since the question of foot-cube value very often comes in.

The Parlour Question Again.

It is disappointing to find that the parlour question has not yet been definitely settled. Acton's housing scheme provides for no more than 75 per cent. of the buildings, while at Ealing the percentages are reversed, and the Ealing Women's Housing Association has protested against the dismal fact that 25 per cent. of the dwellings to be put up are to have parlours. These Ealing houses are estimated to cost more than £300 each, which is probably the reason for the wholesale omission of parlours. To ignore expert opinion in this important question is distinctly provocative, and the Ealing Citizens will be thoroughly justified in taking every possible means to avert the fatuously false economy of saving

a few paltry pounds at the expense of generations whose convenience and self-respect will suffer, and whose standard of living will be inevitably degraded. The case for the parlour has been proved abundantly, and there is no need to reopen it for the admonition of Acton and Ealing; and it is no doubt superfluous to suggest that the women who are protesting should not accept local defeat as final, but should appeal to the Ministry of Health, who are perfectly well aware that the non-parlour dwelling is a prolific source of squalor, depression, and discontent. Where there is no parlour there can be no house-pride. It is distinctly heartening to find that the women of Ealing have a clearer vision in this matter than the burgesses, and are expressing it with courage and energy. As this is so largely a woman's question, the example should be promptly followed wherever the parlour is threatened with extinction. We have always strenuously advocated the retention of the parlour—not *qua* parlour, entirely, but partly—perhaps mainly—because its acceptance, or its rejection, is significant on the one hand of the more generous and on the other of the meaner view of housing policy.

The Cost of Building.

Everybody who has to pay more than formerly for what he requires is strongly disposed to load with blame, if not with abuse, the person who demands the increase. This "direct-action" complaint may be very natural, but it is also very thoughtless. Prudence and common-sense would alike suggest that the sources of the mischief are to be found, after painful research, in a territory not hitherto thoroughly explored. Among those who hasten to fix the blame on the nearest object municipal engineers are rather painfully prominent. It is so easy to appease one's council (which always demands a scapegoat) by proclaiming the contractors who send in the high tenders to be arrant profiteers. It is by no means surprising, therefore, to see that some such superficial view of the situation has been aired in "The Times" by a letter-writer signing himself "Municipal Engineer," the fallacy and general character of whose contentions may be inferred from the spirited reply made by Mr. Ernest J. Brown, past-president of the National Federation of Building Trades Employers of Great Britain and Ireland: "He does not prove," writes Mr. Brown, "by simply making a bald statement, that a profit of 33 per cent. on wages of 25 per cent. on materials is made by a builder; in fact, it is certain he could do nothing of the kind. He cannot for a moment believe that in estimating a builder does in fact add anything like that percentage to the costs. Does he not realise that what he speaks of as 'the standard of wages' is only arrived at by agreement between the operatives and the very men he wishes to eliminate? And does he not realise that, before such agreements are arrived at, the employers are put to great expense, part of which falls upon every employer so concerned—an expense towards which his council have contributed nothing? Does he not also realise that builders have to keep up establishments which shall always be ready to undertake a contract whether in private or public interest?" Mr. Brown is too polite to mention that, as we have hinted above, public officials seem disposed to attack the contractor with a dogged persistency that suggests some ulterior and unexpressed object. Can it possibly be that borough engineers, and similar officials, would like to see the contractor eliminated? If that is the idea, it is one of which the absurdity has been repeatedly demonstrated. Many a local authority has, with or without the advice of its officials, blithely entered on the perilous paths of direct employment of labour, with results that have been in every way regrettable. We trust, therefore, that Mr. Brown's timely letter will have considerable effect in preventing the repetition of so uneconomical an adventure.

To Popularise Architecture.

We have received from Mr. Charles Cressey, M.S.A., of Messrs. Quayle Bros. and Cressey, architects, San Diego, California, a proof of an article on Registration which he has contributed to "The Architect and Engineer" of San Francisco. We intend to reproduce this article in an early issue. In the meanwhile it will be interesting to quote the author's suggestion that "the point of the article, applied to England, would be the desirability of providing means, in any Registration Act, for educational work amongst the public interested in building, by lectures, bulletins, and propaganda dealing chiefly with the ultimate good in skilled planning and design." Such propaganda work could easily be undertaken by architectural organisations; and a public become accustomed to such campaigns is probably in a receptive mood for so attractive a subject. A similar suggestion has been made in the British Press during the past week with respect to the raising of a national fund for housing, the idea in this case being to send round lath-and-plaster houses which should emulate the "tanks" in drawing money from investors. Could not the two suggestions be combined?

Architectural Causerie

THE month of August usually finds architectural enthusiasts scattered among the fair counties; formerly France was the favoured ground, but things are not quite normal at this moment, so perhaps for the good of the country, architects and their pupils are now laying siege to historical monuments far removed from the heat of London.

* * * *

Bedfordshire is a county holding many treasures of building. To recount the names of the men who in the past contributed to the piling of these precious stones would fill a catalogue. Sufficient it is to state that the list covers the complete range of architects from John Thorpe to the Wyatts. Many of the stately mansions are intact, with every stone in place and the roofs well covered; the lawns well kept, and the great avenues attended with all the skill that forestry can bring to bear; others are in ruin, left derelict, and threatening to fall into even greater decay; the walls overgrown with ivy, and where bare scrawled with the hieroglyphics of the many-headed, who, feeling the pathos of it all, evince an insane longing to be associated with the general desolation.

* * * *

Now, we all admire the activities of the Society for the Protection of Ancient Buildings; a select company of architects, antiquaries, artists, and the like who hold fortnightly meetings in Buckingham Street in order to circumvent the villainy of the spoiler. Yet this society finds it difficult to deal with all the cases brought to its notice. It finds this owner apathetic and another too poor to take an active part in the preserving of landmarks; but its meetings are useful, for they serve the purpose of checking wanton destruction. I desire the society to turn its telescope upon the present condition of the remaining stones and brickwork at Houghton Conquest before they utterly fall to dust. They had a certain respect for old things even so far back as the middle of the seventeenth century, when the Cross at Charing is made by a writer to discuss with the Bull at Cheapside the approaching destruction of both monuments.

* * * *

In speaking of Houghton Conquest I am touching on a dangerous subject, for controversy is keen as to whether Inigo Jones was the author of the work; some inclining to Sir Reginald Blomfield's opinion that "the internal evidence of the actual design of the buildings is the only test which it is possible to apply." And other writers seem to find it prudent to avoid all mention of the place in their books.

* * * *

Houghton is interesting historically because it was built by the celebrated Mary Herbert, Countess of Pembroke, whose fame has been immortalised by Ben Jonson:

"Underneath this marble hearse
Lies the subject of all verse—
Sidney's sister, Pembroke's mother.
Death, 'ere thou canst slay another
Learn'd and good and fair as she,
Time shall throw a dart at thee!"

Originally the estate of Houghton was in the possession of the Conquests, who gave to the parish and manor its double name. It is supposed that some of the original walls remain in a farmhouse near by. Good King James honoured Sir Edmond, lessee under the Crown, with a visit in the year of the dreadful conspiracy, some ten years before he handed over his interest in the place to the Lady Mary Herbert, who caused to be erected a mansion equalling the scale of Ampthill House, near by, which had been enlarged by the famous John Thorpe. The present house, or what remains of it, appears to have been built between the years 1616—21, and could hardly have been enjoyed by the Countess for long. Local tradition assigns the architecture to Inigo Jones, mainly on account of the modelling of the square plan, free from internal areas, and partly on the assumption that he was patronised by William Earl of Pembroke, for whom he erected Wilton. Rather flimsy evidence! The site is one of the most remarkable in Bedfordshire, formed as it is on the brow of a hill commanding between a majestic avenue of oaks the broad vale of Bedford, needing only a lake or long canal to make the miniature park one of the best of its kind in England.

* * * *

From a study of the elevational drawings at Ampthill House, as well as from a survey of the walls still standing, it is possible

to trace the distinctive features of this fine mansion of Houghton and to comprehend the richness that formerly resulted from its upright features and perhaps more especially from its picturesque skyline. The house is built mainly of London on coursed stone foundations, some of the internal walls being of stone. The brick facings in general correspond to the brickwork of the period, but the piers of the north loggia, as well as the spandrels to the arches, are of gauged work. The detail of the masonry is particularly striking, approaching in this regard the delicate similar attributes at Whitehall, yet carried out in close-grained Tottenham freestone. There is a strong Palladian influence in the design of the north and west loggias, the north resembling the interior of the Convent della Santa at Venice and the west a dignified recessed portico, 22 ft. 5 in. by 12 ft. 3 in., of six bays, showing the adaptation of the Roman Doric to the needs of the period, the columns being entased with precision. The plan rather suggests the principal entrance have been on the north side, in proximity to the great staircase, the kitchen wing extending to the east. The two principal apartments on the north front had bay windows of special character extending through the first floor, the gables over the bay windows being shaped. The west front was evidently the grand front, the chief feature being the double loggia, Doric on the ground floor and Ionic above, terminated over by a storey of four Corinthian columns, carrying a full entablature and pediment. The east front, which also formed an important entrance, is now disfigured by an addition in the style of John Thorpe, but here, especially in the design of the tower and the porch, can be discerned the hand of the one well versed in classical detail.

* * * *

There is sufficient evidence in the porch and the stuccoed ceiling of the chambers over to indicate the original decoration, and it appears that oak panelling must have been sparingly used. The walls of the staircase hall are treated in stucco to resemble stone, deep voussoirs, delicately channelled, forming the principal decoration to the windows and door openings, also to the niche on the side wall, as well as to the pair of small features at the level of the first floor landing. Many of the floor apartments were treated with stucco panels, cartouches with linen festoons being reserved for the space over the door places, and it is probable that some of the stuccoed walls were decorated with frescoes.

* * * *

If, as Sir Reginald Blomfield suggests, internal evidence is the surest index to the master hand of Inigo Jones, the opinions of our own views incline to the idea that Inigo had something to do with the work. The western loggia is a direct statement of his own style. The scholarship displayed in the proportion of the orders, the correct detail of the entablature, no less than the subtle adjustment of the dies and balustrade, intervening between the lower order and that superimposed upon it, are characteristics unequalled by any other architect of the day. There is any truth in the theory that the work of the architect reveals their personality, try how they will to suppress their own; then the inner door leading from the loggia to the library, its croisettes and fanciful pediment, speaks with eloquence of the handsome features of Inigo, flaked beard, piercing eyes, flowing locks, silk cap, broad collar, and rich coat, limned out for our benefit by Vandyck. There is further evidence of the hand of Inigo Jones in the fragment of the stable buildings. It is possible that John Thorpe gave the scheme in general, but that the fastidious Countess called upon the travelled Jonson to design the loggias and superintend the decorations?

Houghton Mansion was bought, lock, stock, and barrel, in 1738 by the Duke of Bedford, but it was not renovated for many years, probably after 1755, when Chambers, as a young man, was commissioned to put the place in order as a seat for the Marquis of Tavistock, who was extremely partial to the house. The Marquis was killed in the hunting field in 1767. The Duke of Ossory afterwards resided in the house for a short time.

* * * *

In 1794 the dismantling of the house caused considerable surprise. Some of the features, including the staircase, were removed to the Swan Hotel, at Bedford, which I have reason to believe Holland designed, and a small but extremely elegant oak staircase, designed by Chambers, was removed to a house of the 1740 period in Church Street, Ampthill—Bedfordshire. So the tale of the demolition of the stately homes of the land proceeds; but we architects are extremely jealous of the past, and when we are more closely united even private owners will not dare to commit sacrilege.

AEI



AVENUE HOUSE, AMPHILL, BEDS. HENRY HOLLAND, ARCHITECT.

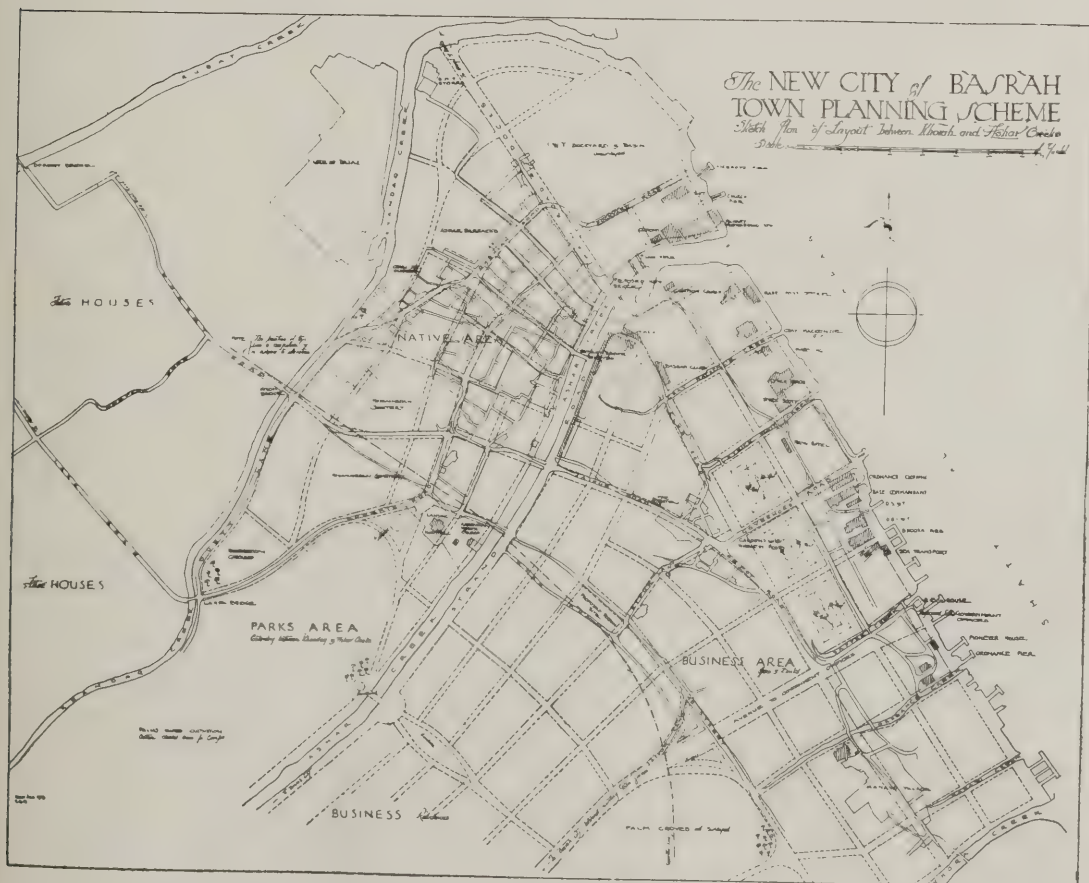
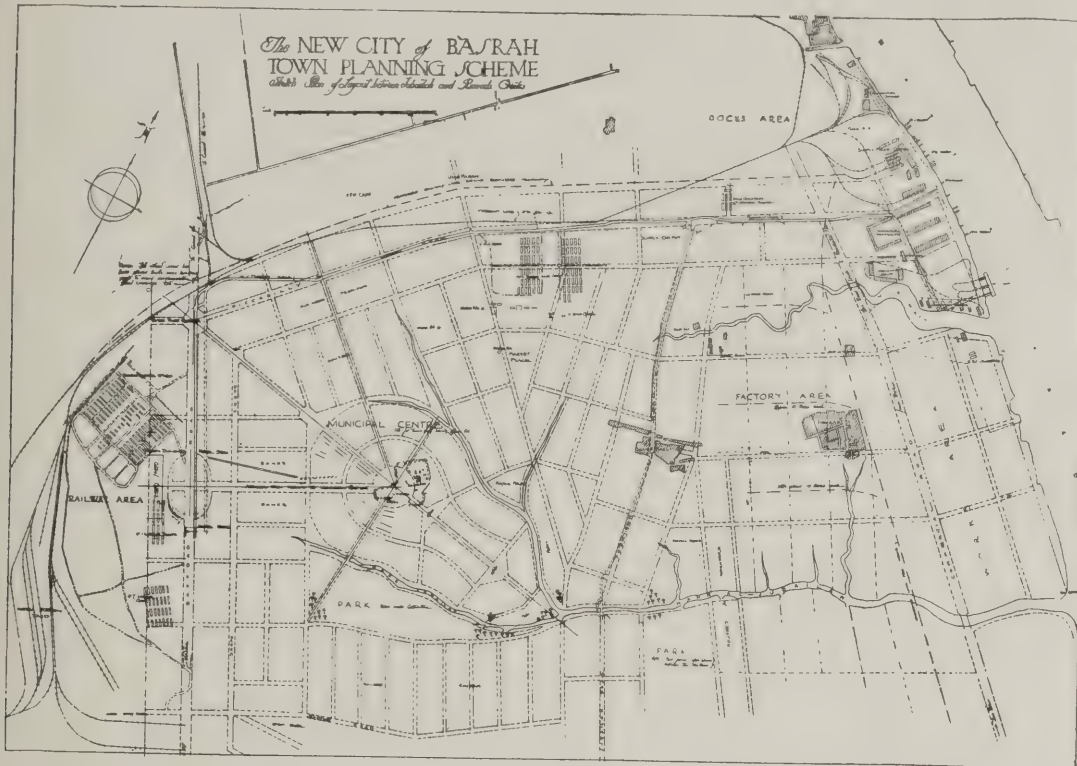
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Town Planning Scheme for City of Basra

Basra, Mesopotamia, has certain geographical features which, added to the work already carried out, make the site a suitable one for the cradle of this proposed city future, and any drastic departures from the general lines already laid down would be costly, unnecessary, and inadvisable. The junction of the two great rivers, Tigris and

been designed and carried out with foresight, and help the proposed scheme devised by Captain S. Douglas Meadows, R.E. It must not be forgotten, however, that the works have been directed towards a military object.

The amphibious nature of transport and the general prominence given to shipping make the docks the centre around



Basra, with the Shat-el-Arab termination of the land across the continent and the easy access to sea passages is a spot the centre of things. The existing works have

which other and subsidiary considerations will cluster. For this reason it is almost impossible to separate the town proper from the proximity of the docks and wharves and industrial

centres. The channel of the Shat-el-Arab flows in towards the bank for some hundred yards or so, and the docks were placed here to obviate the necessity of building out heavy engineering structures into the river at any other point, but from a town planning point of view, they would be better situated a mile or so further down the river. In accepting the dock situation, the railways laid down to link up the docks must remain, also in a lesser degree the roads and bridges. The particular alignment of these, however, may be altered or varied to suit town planning requirements, and there would appear little object in altering them when a slight modification of a scheme to be designed could embrace them with advantage. In this scheme the general lines already laid down have been accepted as fixed, and the town plan built up around them.

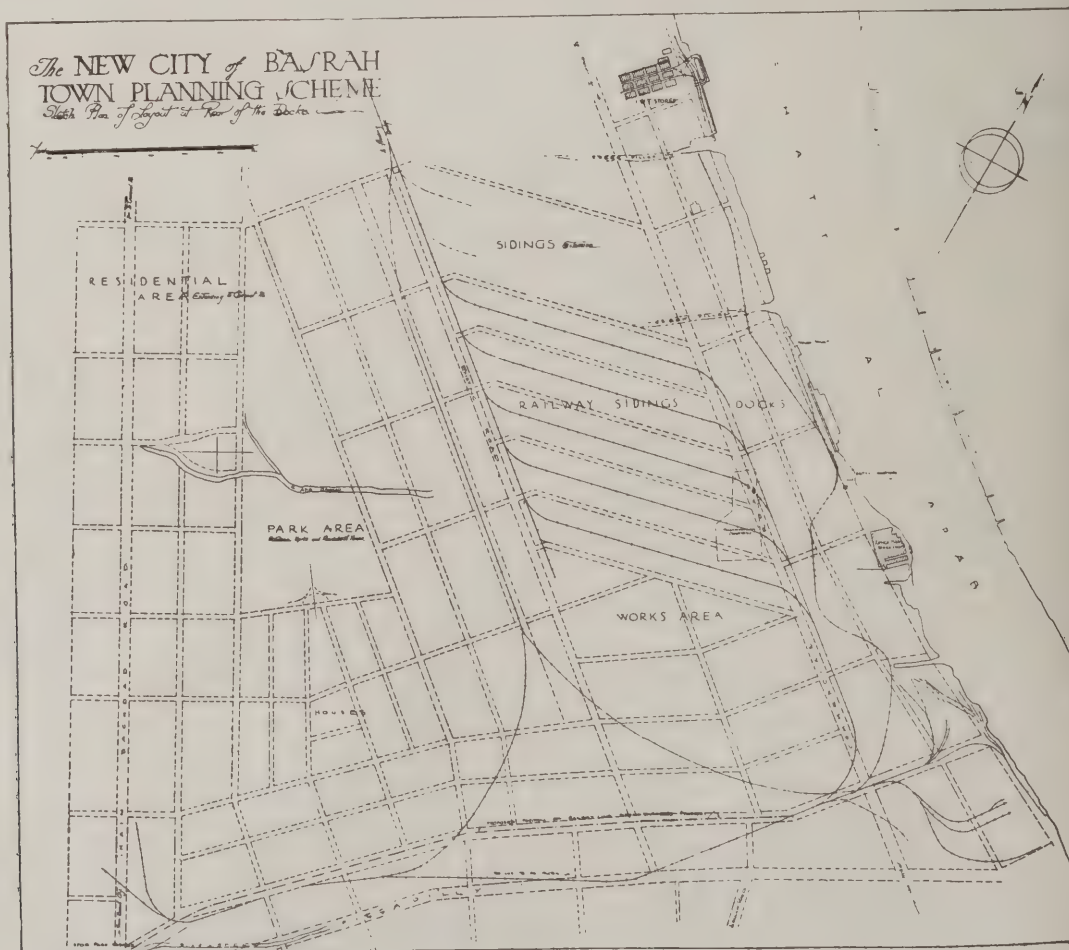
The scheme is to utilise the banks of the upper reaches of the river Euphrates from its north bank along the right bank down to the present city of Basra and Ashar in descending scales of the social life and racial position of the inhabitants, and the motif of design has been simplicity of plan throughout, straight roads, pipe lines, and communications. The question of bridging the Shatt-el-Arab and the Euphrates at the two islands depends to some extent on the subsidiary docks built at Nahr Umar, which are not likely to remain, and need not be allowed to interfere with the scheme.

The prospect of bridges over the river, the termination of the Great Road in some imposing pile of masonry, the picturesque creeks ornamentally treated, the surrounding magnificence in artistic structures, should make an imposing climax to a range of views. Bunding of the river banks would be necessary in any scheme, and has been carefully considered. The residential quarter must be in an up-river position, and if placed anywhere else would lose the advantages mentioned, in addition to becoming liable to contamination by the industrial centre. In the position chosen it is free from pollution of the stream, etc., and will enjoy the fresh flow of the down-coming waters of the Euphrates, and the fine prospect of the shipping and indenting for four miles down the Shatt-el-Arab, in addition to the view of the two islands and the bridges spanning the river. The Great Road will give a vista comparing with the Champs Elysée or the Unter den Linden. Government buildings should terminate this road and descending it towards old Basra the numerous public buildings and offices should be built at points indicated on the plan. Houses by the side of the river would be occupied by Government officials, merchants, and leaders of industry and commerce. On the other right bank

at Gurmat Ali houses with, say, two or three acres, each minor officials, professional men, and business people.

Houses on one acre or less would be erected in the area apart for business men and workers, and the municipal administrative buildings. Baths, public wash-houses, libraries, laundries, schools, theatres, and churches are all placed in the area, whilst playing-fields, recreation grounds, will develop towards the open country. Between this area and the commercial area will be the docks with the railway (goods department), sidings, sheds and stores, factories, offices and warehouses, wheat granaries, and workshops. Workers' dwellings will be placed in the easy reach of this area, separated by a park or open space. The scheme makes the railway-station a fairly important feature, and a branch line is suggested to the residential quarter, crossing the Euphrates preferably near the island. This line will also form a bund considerably extending the present protected area in the Gurmat Ali district, and the present line would be moved westward about two miles. Opposite the station and towards the river are the headquarters of the customs offices, dock offices, banks, bourses, and general professional quarters, which will develop along Rubat Creek. To the south the residential semi-native and Jewish quarters will extend along the two creeks, Khandaq and Ashar, and business in the improved towns of Ashar and Basra. All places will be all linked up with roads and railways, and the old towns will eventually either assume a European character or disappear altogether.

Khora and Seraji, the beautiful creeks in the south will attract many visitors, and possibly settlers, and this Central Meadows regards as the Bungalow district, the Marlow Maidenhead part of the river where citizens will spend their autumn. Shaiba is suggested for convalescent hospitals, sanatoria, and possibly a residential suburb. One of the drawbacks to a larger scheme here is the water question. There are nine wells somewhat brackish, of which the water of three only is fit for drinking, but, of course, this could be overcome by pumping from the proposed intake at Gurmat Ali. The central power station will no longer be central in the scheme, but as this is not in the proposed European residential quarter, it may be allowed to remain for the present. The water supply must be derived from the highest point of the river in the north-west of Gurmat Ali. Sewage disposal is a difficult problem, and some bacterial purification of sewage should be adopted and the effluent discharged into the river below the town and the sludge used for cultivation. A system of





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s installation could be devised for those parts of the town rated from the main city by the river, the effluent to discharge into the river. Dust and refuse could be burned to useful clinker for slabs or road-making material slag after products have been taken out. This may be collected by vacuum system, and central steam-heating for winter may be ordered. Standardisation and centralisation of power are recommended as making for the greatest good to the greatest number at the least cost.

esent roads have been taken into the scheme as far as possible—in fact, the Baghdad road is largely the feature on which the whole scheme hinges. Shade may be made by means of elm groves and vine creepers, instead of narrow, poky, and smelly streets where air cannot circulate. Speed of traffic should determine which road track it will use, and trams not advocated. Each creek where not filled in entirely should be locked or be provided with a sluice gate at the mouth treated as an ornamental feature, whilst at the same time being used for commercial ends. Moreover, one might reasonably reserve an area for aeroplane stations and landing-places, it is suggested that by the time the military cantonment is done this site will be ready for the inauguration of the new machine.

Two salient points considered with respect to the design construction of houses are: (a) Protection of the occupier from the heat and dust in summer; and (b) from inclement weather in winter, and Captain Meadows makes the following interesting notes in regard to the planning and construction of buildings, which should have all the properties of an English house with the additional constructional requirements to elude the sun and consequent heat. The primary consideration in design should be "aspect," and consideration would be given to the prevailing wind, the proximity of water, the flow of the humidity of the atmosphere, the levels and the virgin sub-soils on which the house stands. Where there is any variation in sites these points will be the deciding factors, and a north-east by north aspect adopted for the house.

For construction use should be made of mud bricks as a filling, bricks made with chipped straw as a binding ingredient.

A wall with outer shells of ordinary burnt brick to resist the weather with the cavity filled in with mud bricks should form a useful and cheap sun-resisting screen, and the inner and outer facings would, of course, require to be banded together at intervals, and a hollow wall has in this connection certain advantages. In plan the houses should not be elongated, rectangular ones, with three out of four walls external ones, but rather a compact grouping of rooms together with two, or even only one, external wall. A window or door in a two-foot wall having splayed jambs will just catch the early or last rays of the sun, which will be at its most harmless and useful moments. Larders, game store room, w.c., and pantries would be on the north side of the house, or have windows facing north. The dining-room will be most cheerful looking west, as it will then catch the rays of the retiring sun at the dinner-hour several months of the year; morning-room and drawing-room east or north-east by north. Although chief consideration is given to the summer months of the year, it must not be forgotten that there are several very cold spells to be guarded against, and these must all be items of consideration in house construction. With regard to the roof, the ordinary old English thatch is recommended as having all the properties required, and tending to revive a dying trade. It is also cheap and easily obtainable, handled, and fixed. A roomy roof space, with open friezes under eaves is recommended, as in some districts in France. The top of the ceiling joists to the upper rooms could then be covered with hordinary mud, which would help to reduce temperature in the rooms below. As regards ventilation, exhaust fans and air ducts could be adopted, the air being collected underground by means of intake vents. These ducts would convey the air to a chamber or cellar under the hall, where, by a simple chemical process, it could be reduced to any reasonable temperature and so delivered into each room. In winter, by a simple installation of ventilating radiators, the cold air could be replaced by hot. In this low-lying flat country the elevation of bedrooms must be an advantage and better for underneath rooms which are kept cool by the superimposition of other protected spaces. These rooms will be slightly higher in temperature for the cooler nights.

A Reinforced Concrete Canteen Building

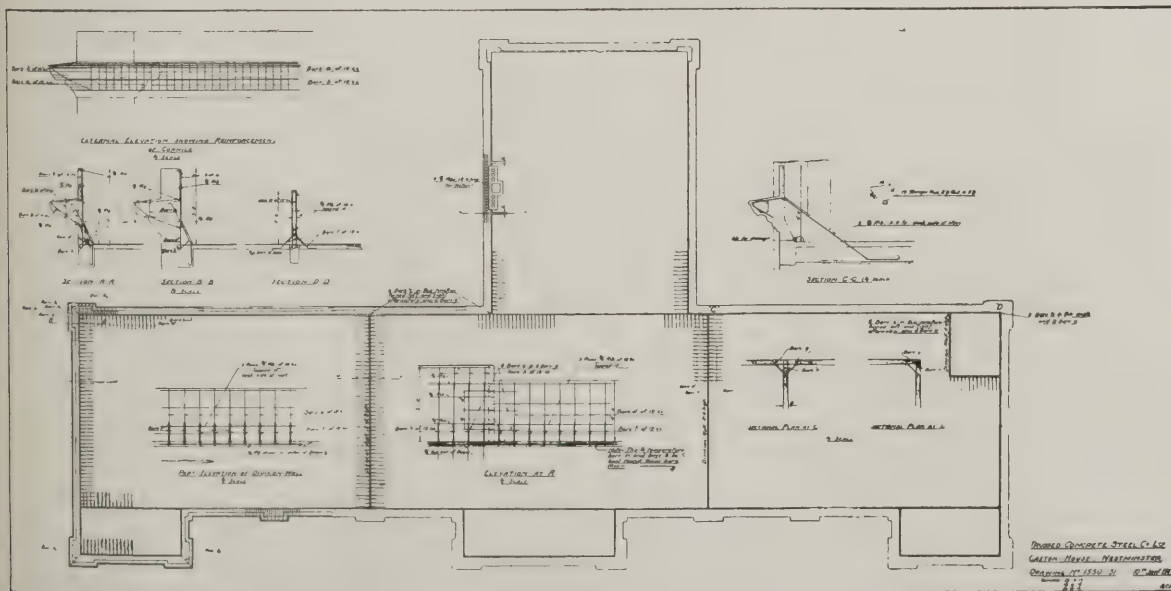
DINING-ROOM and cloak-room accommodation has been provided at the motor-waggon works of Messrs.

Leyland Motors (1914), Ltd., by the erection of a reinforced concrete frame canteen building, with 11 in. brick cavity panels. Exterior effect, as will be seen from one of the illustrations, has been obtained by a bold classical cornice of forced concrete, pilaster treatment of the main walls and a large area of window space. The ground floor provides a large area for from 300 to 400 bicycles, adequate and well-fitted storerooms for men and women, and cold storage for meat, milk, and other foodstuffs.

The first floor is a well-lighted dining-room, 241 ft. 6 in. by 109 ft., providing accommodation for 1,600 workers at one end, and having a raised stage at one end for concert purposes. The circular reinforced concrete columns are constructed with Hy-Rib sheathing, which by forming a mould

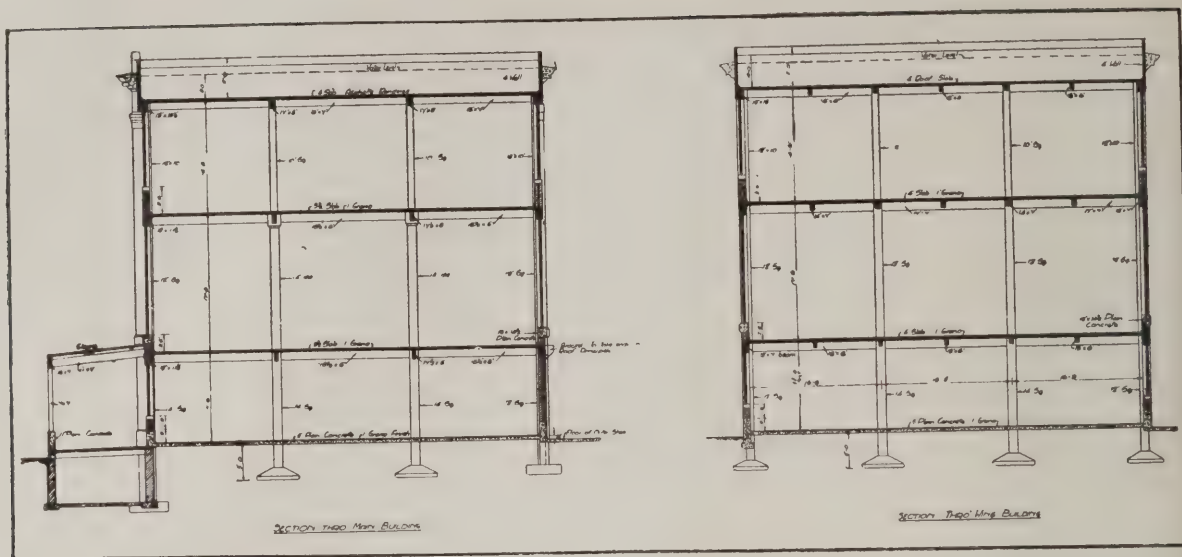
for the concrete dispensed with timber shuttering or false work and at the same time provided additional reinforcement. Further reinforcement of the columns was carried out by means of a 3/8-in. steel vertical rod and a vertical reinforcement in each column of four 5/8-in. Kahn-Rib bars. The outside face of the Hy-Rib was plastered with cement plaster. On the second floor is a completely equipped experimental workshop, and all the floors are of reinforced concrete covered with wood-block floorings.

The roof of the main building is devoted to a tank 242 ft. by 50 ft., holding a depth of 2 ft. 9 in. of water, and providing 208,000 gallons of water weighing about 928 tons. The roof, sides and bottom of the tank have been asphalted. Low pressure hot-water pipes and radiators have been installed



Plan and details of the mess-room roof, tank walls and parapet walls.

CANTEEN BUILDING AT PREMISES OF MESSRS. LEYLAND MOTORS (1914), LTD. MAJOR Q. M. BLUHM, A.R.I.B.A., ARCHITECT.



SECTIONS OF REINFORCED CONCRETE CANTEN AT PREMISES OF MESSRS. LEYLAND MOTORS (1914), LTD.
MAJOR Q. M. BLUHM, A.R.I.B.A., ARCHITECT.

throughout the canteen building for heating, the water being heated in calorifiers supplied with exhaust steam from the works. The windows have been fitted with steel sashes by Williams and Williams, of Chester. Messrs. S. and J. Smethurst, Ltd., of Oldham, were the general contractors for the erection of the canteen building, and the Trussed Concrete

Steel Co., Ltd., of South Kensington, were the engineers for reinforced concrete and also supplied the whole of the reinforcement of Kahn-Rib bars and Hy-Rib sheathing. The architect was Major Q. M. Bluhm, A.R.I.B.A., of St. Asaph-on-Sea, Preston and Manchester, under whose supervision the work has been carried out.

The Plates Described

The Market Place, Madeira.

THE island of Madeira (so justly renowned for the production of grateful vintages) is the only important member of an archipelago of volcanic origin situated about 400 miles off the north-west coast of Africa. It was not discovered until about 1420, when it was colonised by the Portuguese, to whom it still belongs. Naturally, it possesses no architecture of very considerable antiquity. Its inhabitants are of mixed Portuguese, Moorish, and Negro breed, from whom a very distinctive style of architecture could not reasonably be expected. Yet the native building art has, nevertheless, a pleasant and appropriate quality, obviously owing much of its charm to European influence. As will be seen from the view of the Market Place, reproduced on page 284, the local architecture blends wonderfully well with the rugged character of the island's physical conformation.

Avenue House, Amptill.

We give an illustration of a particularly refined eighteenth-century porch from Amptill, designed, together with the house and temple in the grounds, by Henry Holland. Holland was one of the giants of the late eighteenth century, and his works comprise some of the stately houses in England. (Page 289.)

Canteen at a Motor Works.

The provision of canteens in connection with large factories is now becoming a matter of common practice. This example at the works of Messrs. Leyland Motors (1914), Ltd., is constructed of reinforced concrete, and has many points of novel interest. It is described on page 297.

Converting Old Dublin Houses into Flats.

In the conditions of the recent competition promoted by the Royal Institute of the Architects of Ireland, under the ægis of the Local Government Board, it was recognised that the conversion into flats of the large Georgian and Queen Anne houses existing in Dublin, and some other of the older cities, was a matter of urgent importance. Premiums of £50 and £25 were offered for the best designs for the conversion of a block of four existing houses, as shown on the double-page plate, into blocks of self-contained flats containing (a) living-room, scullery, and three bedrooms, with bath and w.c.; (b) living-room, scullery, and two bedrooms, with bath and w.c. In spacious squares and streets Dublin, particularly, has a great number of houses possessing large rooms and ample staircases, built for a period when social life had its being as well as its centre in the city. These houses are now being fast abandoned as "tenements," in which the front door is on the latch, the hall and staircase public property, but nobody's responsibility, the sanitary

accommodation (probably two w.c.'s for ten families) in a yard, and only one water tap. Many of these buildings are in a crazy condition; but there remain a very considerable number well built and sound, of both historical and intrinsic value, which it would be mere vandalism to destroy. Messrs. Beckett and Harrington, the authors of the designs which we illustrate in the present issue, and who obtained first place in this particular section of the competition, based their scheme on the following principal ideas, suggested for economical reasons, to the limitation of the amount of alteration of the existing structure as much as possible. Means of access to the separate flats should be ample and should be open at all times to supervision. Public access to the open space at the back must, however, be capable of being closed at night by a gate under the control of a caretaker. The general or public staircase must be open to the wind and in full view of the tenants generally; it is anticipated that it would be properly lit at nights by a large central arc lamp. The ground should be of impervious and easily-cleaned materials. A sufficient number of dwellings should be grouped together to allow of the employment of a caretaker, to be responsible for the cleaning and care of the premises generally. (d) Each dwelling to be entirely self-contained and have all necessary conveniences. (e) It is desirable that the open space at the back should be as large as possible, to allow of a children's playground; the two groups are thrown together so far as the use of the basement are concerned. This arrangement permits of some sharing of work between the caretakers of the two groups, which would be an advantage in case of illness or temporary absence.

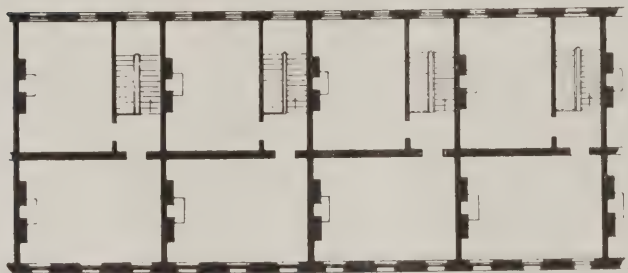
The Mosque of Suleiman, Constantinople.

Sultan Suleiman I., well-called the "Magnificent," who has been a truly Augustan patron of the arts, for in the reign of Sinan, the architect, began the building of his third mosque. This mosque, the Suleimaniyeh, commemorates his own name, and in point of size and natural position it is the finest in Constantinople. It is set on the summit of the hills which rise from the Golden Horn on the one side and the Sea of Marmora on the other, and is a most conspicuous landmark from all parts of the city, and also from the sea. The mosque is 227 ft. in width and 203 ft. in length, and the forecourt has a total length of 359 ft. The diameter of the dome is 85 ft. 4 in. The forecourt is nine bays wide and three bays deep, and has three entrances in the customary position. The mosque in some respects shows a reversion to the type, for only the east and west sides of the central dome are filled with arcades bearing tympanum walls. (Page 290.)

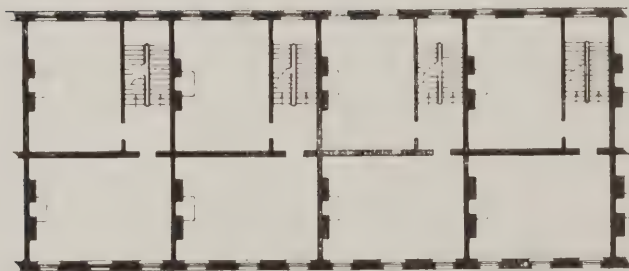
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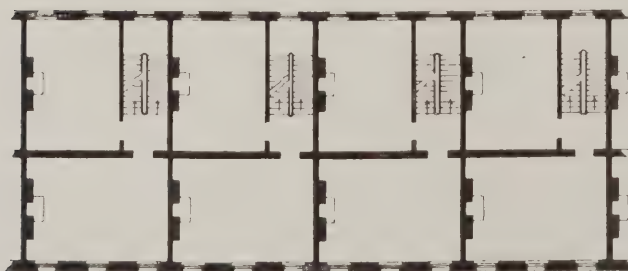
FRONT ELEVATIONS



THIRD FLOOR PLAN

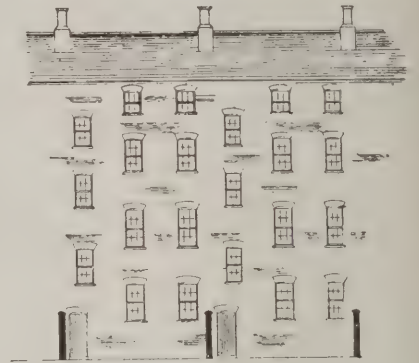


SECOND FLOOR PLAN

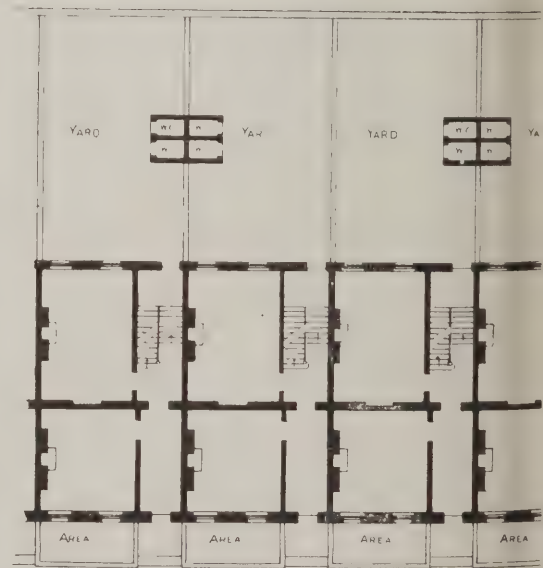


FIRST FLOOR PLAN

CONVERSION OF HOUSES INTO FLATS
OF THE L.G.B. HOUSING COMPETITION
INSTITUTE OF ARCHITECTS OF IRELAND



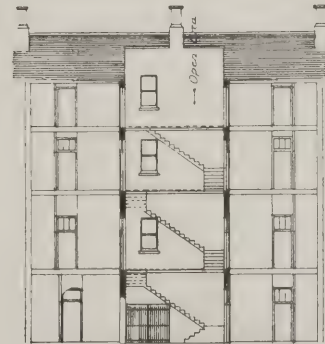
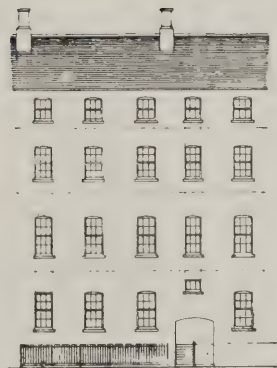
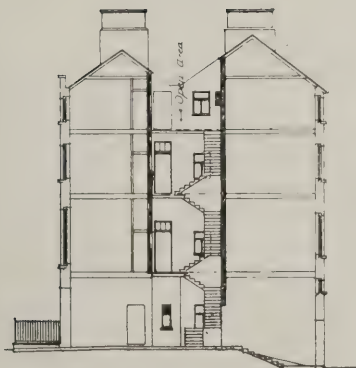
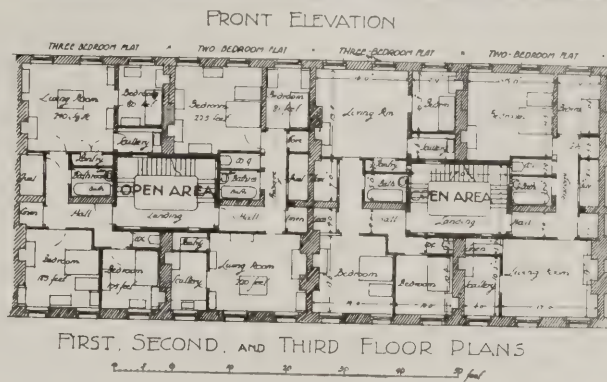
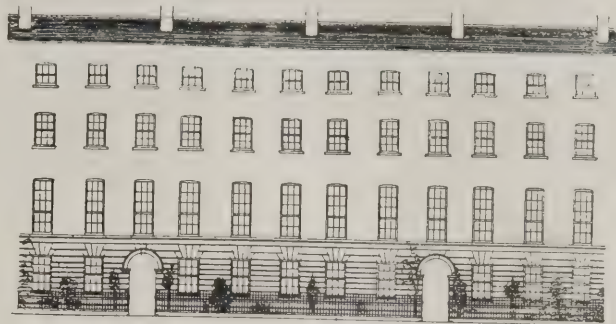
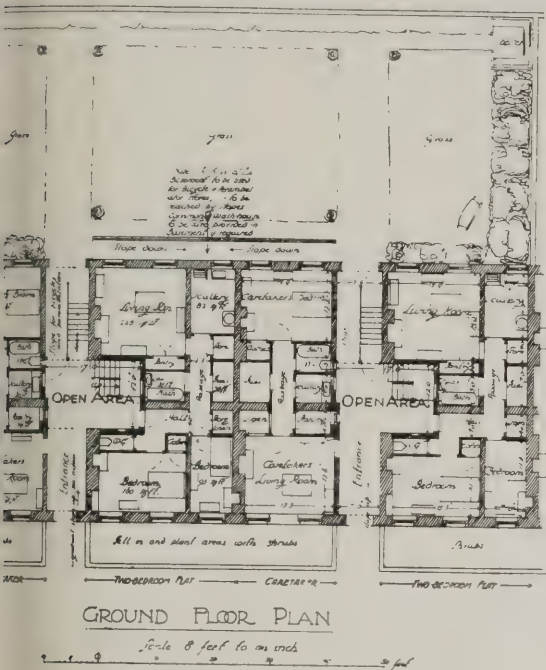
PART BACK ELEVATIONS



GROUND FLOOR PLAN

PLANS AND ELEVATIONS OF HOUSES BEFORE CONVERSION.

FIRST-PREMIATED DESIGNS IN PART II.
 UNDER THE AUSPICES OF THE ROYAL
 INSTITUTE OF ARCHITECTS.



PLANS, ELEVATIONS, AND SECTIONS OF HOUSES AFTER CONVERSION.

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Analysis of Pre-War and Post-War Prices for Building Work*

By LIEUT.-COL. T. E. COLEMAN, R.E. SERVICES.

(Continued from No. 1286, page 273.)

Schedule of Building Prices.

The following list comprises some of the principal items of building and engineering work, and indicates the average-war rates ruling in the London area, together with the post-war values

for similar work, after making allowances for the increased rates of wages, the reduced efficiency of labour, and higher prices of materials.

For simplicity of reference, any unimportant fractional values have been omitted from the present computed prices.

Average Increase for Each Trade.

From an examination of the details of cost for the principal items of building work already given, it is possible to deduce a broad average percentage of increase for each trade, which may be useful for purposes of general estimating. In this connection it will be observed that the greatest percentage of increase in any of the building trades has taken place in the painter and paperhangers' work. The labour costs have risen by 165 per cent., and the materials by 180 per cent., making a total average rise in price of 170 per cent. for painting items generally.

The next largest increase is that for excavators' work. The cost of excavations in foundations, trenches, etc., is practically all represented by direct expenditure on labour, together with but a small proportion for the use of timber and plant. The rates for excavating generally average 160 per cent. above pre-war prices.

The cost of concrete has risen by 150 per cent. for labour, and 90 per cent. for materials, giving a combined increase of about 100 per cent. for all items of concrete work.

In drainage work the cost of labour and materials for stoneware drains has each increased by approximately 140 per cent., or an average of 140 per cent. on all items of this description. Cast-iron drainage work now costs 134 per cent. more for labour and 113 per cent. for materials, so that, broadly speaking, the rates for cast-iron drainage are about 120 per cent. more than pre-war prices.

Bricklayers' work shows an increase of 130 per cent. for labour and 75 per cent. for bricks, cement, sand, etc., making a total rise in value of 95 per cent. for ordinary brick-work items.

In mason's work labour has increased by 122 per cent., and materials by 60 per cent., making a total extra cost of 90 per cent. for stone-work in buildings generally.

Both slating and tiling have increased by 130 per cent. for labour and 100 per cent. for materials, or a total increase of 108 per cent. on these trades.

Carpenters' and joiners' work now costs about 124 per cent. extra for labour and 180 per cent. for timber, giving an average rise of 150 per cent. for all items of this description. With the exception of painters' and excavators' work, the greatest increase has taken place in this section of the building trade.

The various items of founders' and smiths' work show a rise of 134 per cent. in labour, 112 per cent. in cast-iron goods, and 130 per cent. in steel-work, making a total average increase of 120 per cent. on the work of this trade when taken as a whole.

The cost of plasterers' work has increased by 130 per cent. for labour, and 85 per cent. for materials, or a total of 112 per cent. for all plastering items.

Plumbers' work shows a general rise of 135 per cent. for labour and 60 per cent. for materials, making a total extra cost of 85 per cent.

Ordinary sheet glass has increased generally by 150 per cent., and the cost of glazing by 135 per cent. so that the

DESCRIPTION.	Quantity or Measure.	Average Cost in Aug., 1914.	Average percentage of total increase for all labour and materials.	Average Cost in June, 1919.
EXCAVATIONS.				
digging and throwing out in common soils in large quantities, not exceeding 5 ft. deep	Yd. cub.	£ 0 0 8	160	£ 0 1 9
in gravel or stiff clay, and ditto	"	0 0 11	160	0 2 4
digging and throwing out in common soils in trenches, etc., not exceeding 5 ft. deep	"	0 0 11	160	0 2 4
in gravel or stiff clay, ditto	"	0 1 4	160	0 3 6
for every additional 5 ft. in depth	"	0 0 4	160	0 0 10
for wheeling not exceeding 50 yd., including filling	"	0 0 7	160	0 1 6
for carrying away (not exceeding 1 mile, including filling)	"	0 2 6	160	0 6 6
for each additional mile	"	0 1 0	160	0 2 7
loading and planking to sides of excavations, including use and waste of timber, fixing, and unfixing	Ft. sup.	0 0 2	188	0 0 5
CONCRETE.				
ORDINARY FOUNDATIONS, ETC.				
lime concrete (1 part lime to 6 parts ballast gravel), including hoisting or lowering 10 ft.	Yd. cub.	0 12 6	101	1 5 2
and cement concrete (1 to 6), ditto	"	0 16 0	98	1 11 8
for hoisting or lowering concrete every additional 10 ft.	"	0 1 0	150	0 2 6
CONCRETE FLOORS.				
lime concrete, 6 in. thick (1 to 6, as before), fair trowelled surface	Yd. sup.	0 3 0	101	0 6 0
and cement concrete, ditto	"	0 3 9	98	0 7 5
extra for finishing surface of concrete with fine siftings, with smooth trowelled surface, including additional cement	"	0 0 4	100	0 0 8
CONCRETE FOR REINFORCED FOUNDATIONS.				
concrete with broken stone and sand (1:2:4), including hoisting or lowering 10 ft.	Yd. cub.	1 5 0	98	2 9 6
ditto (1:1½:3), and ditto	"	1 7 0	98	2 13 5
for hoisting or lowering concrete every additional 10 ft.	"	0 1 0	150	0 2 6
CONCRETE FOR REINFORCED FLOOR SLABS.				
lime concrete, 6 in. thick, with broken stone and sand (1:2:4), with spade finish	Yd. sup.	0 4 6	98	0 8 11
ditto (1:1½:3)	"	0 4 9	98	0 9 5
PAVING.				
STONEWARE DRAINS.				
cast-iron drainpipes and jointed in sections	Ft. run	0 0 8	141	0 1 7
ditto ditto	"	0 0 11	136	0 2 2
ditto ditto	"	0 1 4	135	0 3 2
CAST-IRON DRAINS.				
cast-iron drainpipes, including running the pipes with lead, but exclusive of digging, etc.	"	0 1 6	117	0 3 3
ditto ditto	"	0 2 9	117	0 6 0
ditto ditto	"	0 4 6	118	0 9 9
PAVING.				
work with Fletton bricks in stone lime mortar	Per rod	16 10 0	88	31 0 0
ordinary walls, etc., but exclusive of facings	"	17 10 0	94	34 0 0
with ordinary stocks and ditto	"	18 10 0	87	34 0 0
with Fletton bricks, in Portland cement mortar (1 to 2), and ditto	"	19 10 0	92	37 10 0
with ordinary stocks and ditto	"	28 10 0	106	58 0 0
work with blue Staffordshire bricks in P.C. mortar (1 to 2), but exclusive of facings and tiling	"	28 10 0	106	58 0 0
POINTING.				
INCLUDING POINTING. EXTRA TO ORDINARY BRICKWORK.				
lime and flat struck joint for limewhiting	Ft. sup.	0 0 1	131	0 0 2½
stock facings, finished with a neat struck joint	"	0 0 2	117	0 0 4
lime and red facings and ditto	"	0 0 5	67	0 0 9
blue Staffordshire facings and ditto	"	0 0 6	105	0 1 0
white glazed facings and ditto	"	0 2 6	87	0 4 8
STONEWORK.				
rough stone in block, quarry scabbled, including dressing 30 ft., and set in lime mortar	Ft. cub.	0 3 6	90	0 6 8
stone, ditto ditto	"	0 2 6	86	0 4 8
to two preceding items for quarry dressed and squared beds, faces, and joints	"	0 1 0	122	0 2 3
rough stone and all labours in plain ashlar, including quoins, etc., including hoisting 30 ft., set in lime mortar and cleaning down	"	0 7 6	90	0 14 3
stone ditto ditto	"	0 5 6	86	0 10 3
stone steps 9 in. x 6 in., rubbed on tread and back jointed and set in cement	Ft. run	0 3 0	105	0 6 2
rough stone window sills, 9 in. x 6 in., rubbed, dressed, and throated, with stopped ends and grooved for iron tongue and set in mortar	"	0 3 0	90	0 5 8
WORK ON STONE.				
sawn or plain work to beds and joints on York Portland stone	Ft. sup.	0 0 6	122	0 1 2
on Bath stone	"	0 0 3	122	0 0 7
work rubbed on York or Portland stone	"	0 1 0	122	0 2 3
on Bath stone	"	0 0 6	122	0 1 2
WORK ON TILES.				
SLATING.				
Counters slating, zinc nailed and laid to 3-in. gauge	Per square	2 5 0	108	4 14 0
tilting, laid to 3½-in. gauge, including double laths	"	2 15 0	108	5 15 0

DESCRIPTION.	Quantity or Measure.	Average Cost in Aug., 1914.	Average percentage of total increase for all labour and materials.	Average Cost in June, 1919.
CARPENTER.				
Fir in lintels, wall plates, etc.	Ft. cub.	£ 0 2 6	181	£ 0 7 0
Fir framed in floor joists, etc.	"	0 2 9	175	0 7 6
Ditto, in roof trusses	"	0 3 4	171	0 9 0
Centering for concrete flats, including fixing and removal	Per square	0 18 0	178	2 10 0
Casings for concrete walls, wrought one side, with flush joints, including fixing and removal	Yd. sup.	0 2 6	178	0 7 0
¾-in. deal rough boarding, laid complete as to roofs, etc.	Per square	0 17 0	140	2 1 6
1-in. deal gutter boarding, fixed complete, including fir framed bearers to same	Ft. sup.	0 0 6	140	0 1 3
1-in. white deal, wrought, grooved, and tongued floor boarding, laid complete	Per square	1 7 0	145	3 6 0
1-in. ditto ditto	"	1 9 0	153	3 13 0
1-in. yellow deal, wrought, grooved, and tongued floor boarding, laid complete	"	1 11 0	125	3 10 0
1-in. ditto ditto	"	1 13 0	135	3 18 0
JOINER.				
1-in. deal wrought, matched, and beaded common ledged doors, including hanging	Ft. sup.	0 0 7	140	0 1 5
Add, if braced	"	0 0 1	121	0 0 2
1½-in. deal wrought, framed, and braced doors, including hanging	"	0 1 0	140	0 2 5
2-in. ditto ditto	"	0 1 2	140	0 2 9
1½-in. deal, wrought, 4-panel square, and flat doors, including hanging	"	0 1 2	140	0 2 9
1½-in. ditto, moulded both sides, and ditto	"	0 1 6	140	0 3 7
2-in. ditto ditto	"	0 1 9	140	0 4 2
Deal cased frames with oak sunk and weathered sills, 1½-in. deal moulded sashes, double hung, with brass pulleys, flax lines, cast-iron weights, etc., complete	"	0 1 6	140	0 3 7
Ditto, with 2-in. moulded sashes and ditto	"	0 1 9	140	0 4 2
Fir proper casement frames, with oak sunk and weathered sills, 1½-in. deal moulded casements, and hung complete	"	0 1 4	140	0 3 2
4½ in. x 3 in. fir, wrought, framed, rebated, and beaded or chamfered door frames, and fixed complete	Ft. run	0 0 6	145	0 1 3
5 in. x 4 in. ditto and ditto	"	0 0 9	145	0 1 10
FOUNDER AND SMITH: CAST-IRON.				
Cast arm furnace bars, sash weights, etc., and fixed complete	Per cwt.	0 8 0	114	0 17 0
Ditto, in columns, etc., and ditto	"	0 12 6	117	1 7 0
3-in. dia. cast-iron socket pipes, including running the joints with lead, but exclusive of digging	Yd. run	0 4 0	117	0 8 8
6-in. ditto ditto	"	0 8 0	117	0 17 4
9-in. ditto ditto	"	0 13 0	118	1 8 4
MILD STEEL.				
Rolled steel in joists, etc., of stock sections, and fixed complete	Per cwt.	0 15 0	130	1 14 0
Ditto, compound sections, and ditto	"	0 17 0	124	1 18 0
Ditto, in stanchions, of stock sections, and ditto	"	0 16 0	117	1 15 0
Ditto, compound sections, and ditto	"	0 18 0	115	1 18 0
PLASTERER.				
Render, float and set with fine stuff on walls, etc.	Yd. sup.	0 1 4	111	0 2 10
Ditto, and set with putty and plaster	"	0 1 7	111	0 3 4
Render and float, ¾-in. thick, with Portland cement and sand (1 to 2), including smooth trowelled face	"	0 2 4	110	0 4 10
Lathing only with sawn fir laths	"	0 0 8	132	0 1 6
Lath, plaster, float, and set with fine stuff to ceilings, partitions, etc.	"	0 2 0	119	0 4 4
Ditto, and set with putty and plaster	"	0 2 3	121	0 5 0
Plain cornices and mouldings in plaster	Per inch girth	0 0 11	122	0 0 31
Ditto, in Portland cement	"	0 0 2	121	0 0 41
Time white, 1 coat	Yd. sup.	0 0 1	123	0 0 21
Ditto, 2 coats	"	0 0 11	123	0 0 4
Distemper, in colour, 1 coat	"	0 0 21	123	0 0 51
Ditto, 2 coats	"	0 0 31	123	0 0 71
Clear-colle and whiten ceilings	"	0 0 31	123	0 0 71
Add extra for washing and stopping walls, ceilings, etc.	"	0 0 2	131	0 0 41
Add extra for scraping walls, ceilings, etc.	"	0 0 11	131	0 0 31
PLUMBER.				
Willed sheet lead in flats, flashings, etc.	Per cwt.	1 7 0	82	2 9 0
Ditto, in trough gutters, etc.	"	1 8 6	82	2 12 0
¾-in. strong lead service pipes and fixing (weight 3 lb. ft. run)	Ft. run	0 1 1	84	0 2 0
1½-in. ditto (weight 6 lb. ft. run)	"	0 2 0	84	0 3 8
4-in. lead soil and ventilating pipes and fixed with lead tacks 3 ft. apart	"	0 3 6	85	0 6 6
6-in. ditto ditto	"	0 4 6	85	0 8 4
3-in. soldered joints	Each	0 1 6	100	0 3 0
1½-in. ditto	"	0 2 6	100	0 5 0
4-in. ditto	"	0 5 0	100	0 10 0
6-in. ditto	"	0 6 6	100	0 13 0
4-in. cast-iron soil and ventilating pipes, fixed complete, including joints run with lead, but exclusive of bends, junctions, etc.	Ft. run	0 2 6	117	0 5 5
6-in. ditto ditto	"	0 3 8	117	0 7 11
GLAZIER.				
15 oz. 3rd quality sheet glass and glazing in squares, not exceeding 3 ft. sup.	Ft. sup.	0 0 4½	216	0 1 2
21 oz. ditto ditto	"	0 0 6	158	0 1 3
26 oz. ditto ditto	"	0 0 7	139	0 1 5
32 oz. ditto ditto	"	0 0 9½	116	0 1 8
15 oz. fluted or obscured glass, and ditto	"	0 0 5	146	0 1 0
21 oz. ditto ditto	"	0 0 7	123	0 1 3
¾-in. rough rolled plate, and ditto	"	0 0 9½	178	0 2 3
PAINTER AND PAPERHANGER.				
2 coats plain painting	Yd. sup.	0 0 8	173	0 1 9
4 coats ditto ditto	"	0 1 0	173	0 2 9
Add extra for burning off old paint	"	0 1 6	173	0 4 0
1 coat copal varnish	"	0 1 0	110	0 2 1
Grain oak and varnish, 1 coat copal varnish	"	0 2 3	150	0 5 2
French polishing	Ft. sup.	0 0 7	140	0 1 5
Trimming and hanging full or half satin papers in good work, including pumicing and sizing walls	Per piece or per doz. yd. run	0 1 4	160	0 3 6
Add extra for stripping off old paper, including washing, stopping, and preparing old walls to receive new paper	"	0 0 10	165	0 2 2
Preming and gilding in plain work with best double oil gold leaf	Ft. sup.	0 4 6	145	0 11 0
Writing plain letters or figures	Per inch	0 0 0½	165	0 0 2

average cost of glazier's work is about per cent. more than pre-war rates.

Summarising these results, we find the percentage of increase which has taken place in each trade during the war period is as follows:

Trade.	Average percentage of increase from August, 1914, to June, 1919.	
	Labour.	Materials.
Excavator	155	210
Concretor	150	90
Drainlayer	137	126
Bricklayer	130	75
Mason	122	60
Slater or Tiler	130	100
Carpenter and Joiner	124	180
Founder and Smith	134	120
Plasterer	130	85
Plumber	135	60
Glazier	135	150
Painter and Paperhanger	165	180

General Average Increase in Cost of Building.

Of the above-mentioned trades bricklayers' and masons' work accounts for approximately one-third (33 per cent.) of total average expenditure on an ordinary building. The carpenters', joiners', ironmongers' work averages a further 37 per cent. The remaining 37 per cent. is distributed over the various other building trades. The excavator, concretor and drainlayer each amounts to a total of about 7 per cent. The slater or tiler, and the founder and smith's work, each average 6 per cent. The plasterer's and plumber's work are each approximately 7 per cent., and the painter and glazier's work about 4 per cent. Taking these proportional values for the whole, we find that the average cost of building generally at the time Peace was signed in June, 1919, was about 120 per cent. above the prices ruling in August, 1914.

Instead, however, of there being present any tendency towards a decrease in building prices since the conclusion of Peace, the industrial conditions of the country are in such a state of flux that the cost of building as a whole is rising. The prices of some materials have advanced since June last, whilst the efficiency of labour has not yet improved. As a result, it is estimated that the cost of building at the time of writing (September, 1919) is approximately 5 per cent. more than in June last, or a total average increase of 125 per cent. above the prices ordinarily current in August, 1914.

A practical index of the continuing advance in the cost of general building work during the war is given by a comparison of the rates paid for various measurement contracts executed in the London district on a standard schedule of prices for all trades.

In August, 1914, ordinary building work in the London district was executed on a measurement (including all labour and materials), at a contract rate of 5 per cent. above the schedule of prices.

In November, 1916, the contract rate had risen to 30 per cent. above the schedule.

In April, 1917, the contract rate was raised to 45 per cent., and in December, 1917, the rate was 75 per cent. above the schedule prices.

In October, 1918, the contract rate was 115 per cent. above the schedule.

In March, 1919, the contract rate was increased to 120 per cent. above the schedule of prices.

These percentages represented the average flat rate as applied to the building work.



DISTANT VIEW OF MOSQUE OF SULEIMAN, SHOWING MOSQUE OF RUSTEM PASHA IN THE BACKGROUND.

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tule when taken as a whole, and they de a fair indication of the constantly asing cost of building generally g the war period.

e following additional example also ates the measure of increased cost of eering work in large sewerage nes. In 1914 the cost of a proposed sewer for the Acton Local Authority estimated at £35,000. The work was oned on account of the war. In 1919, this work was put in hand at estimated cost of £80,000, or an in- e of 128 per cent. on the pre-war

e increases in wages which occurred time to time were fairly uniform in e building trades, but the rise in e of materials has varied considerably e different trades.

(To be continued.)

STRIAN ARCHITECTS AND THE TERMS OF PEACE.

e following correspondence has been langed between the President of the l Institute of British Architects and resident of the Society of Engineers Architects of Vienna. The Foreign e have expressed their approval of the sent to Vienna:

ety of Engineers and Architects in Vienna.

Vienna, July 15, 1919.

ourable President,—By this means ve the honour to present you a reso- t, resolved the 30th June of the nt year by the members of our society e extraordinary meeting. In this ng it was considered from a technical echnical-economical point of view the tions of peace, being imposed by the e Powers on German-Austria—our at exclusive possession and sphere of ty.

ending our resolution to all that e esteemed associations of foreign ries, with which we were associated e scientific endeavours before being e beg you, in remembrance of this onship to assist us in obtaining an ion for the desires, expressed in our tion, by the high Governments of countries.

remain with great respect and n, your humble colleagues,

THE PRESIDENT OF THE SOCIETY.

President of the Royal Institute of British Architects, London.

Resolution.

e Society of Engineers and Archi- in Vienna, being the greatest union en of the technical sciences in the an-Austrian Republic, is deeply d by the contents of the Treaty of dressed in St. Germain-en-Laye. ot the irrefragable conviction that, to the terms of this Treaty the work- ower of the German-Austrian people e entirely paralysed, for by the sepa- of vast and fertile parts of German ries from our country, it will y be possible to nourish our people ntly, and by the intended terrible ment of the national wealth and of ries possessing important raw mate- ke coal, wood, and numerous water s the occasion for working will be a g trouble for our people. The strength alone left to us would e enough to procure from abroad anting provisions and raw materials sufficient degree. The Society of eers and Architects in Vienna is also

of the opinion that the capacity of com- merce and the right of commercial inter- course of our State will be damaged in a terrible way by the terms of peace regard- ing the harbours, the water communica- tion, and the railway traffic. From the point of view of our vital interests the fol- lowing are in particular impracticable and therefore unacceptable:

The demand of illimited parity and highest favour to be granted to the Allied and Associated Powers in using the Austrian communications without reciprocity for German-Austria, then the condi- tions provided in favour to the Tschechoslovakien State for making use of a railway line, traversing the territory of German-Austria and finally the restriction of the German-Austrian navigation on the Danube and the seizure of the greatest part of the German-Austrian ships. A State that is obliged to accept such terms of peace is incapable of existing. German-Austria would be obliged to sink down from her high degree of culture, high even in comparison to many of its neighbours, and to perish. The necessity of maintain- ing the culture in our countries makes it a duty to the Western Powers, after having heard our deputies, to examine profoundly the terms of peace and to soften them to the largest possible extent. In the name of the technical science and the technical labour of German-Austria, represented by our Society, we beg you not to refuse our request.

August 8, 1919.

The President of the Society of Engineers and Architects in Vienna.

Sir,—I have the honour to acknowledge the receipt of your letter, dated July 15, together with a copy of the resolution passed by the Society of Engineers and Architects in Vienna.

While sensible of the just severity of the conditions in the Treaty of Peace to which the resolution refers, the Royal Institute of British Architects would attach greater weight to their appeal had your society taken any steps during the war to prevent, or to publicly protest against, the infam- ous destruction by their country's allies of those works of architecture whose im- mense value to the world your society was very competent to appreciate.

Nevertheless, the Royal Institute ven- tures to hope that the terms imposed upon your country may prove less disastrous than the resolution suggests; and, that after the Treaty has been signed, they may be able to resume relations with your Society in mutual effort to advance the art of architecture. I have the honour to be, sir, your very obedient servant,

JOHN W. SIMPSON,

President of the Royal Institute of British Architects.

PROPOSED CENTRAL GOODS STATION FOR LONDON.

The Board of Trade enquiry into Mr. A. W. Gattie's proposals for improving the methods of handling goods and traffic opened recently in London. Mr. W. H. Gattie claimed that the scheme would enable the work done by seventy-four goods railway stations in London to be carried out at one central clearing house. The proposed goods yard would occupy an area about equal to that of Lord's Cricket Ground. Mr. A. W. Gattie said the scheme, which had been before the public for eleven years, applied the principle of the bankers' clearing- house to the business of goods transport.

His system was: (1) To introduce a three dimensional continuous compound move- ment in substitution for a one dimensional intermittent movement; and (2) to sub- stitute electric apparatus for man hand- ling. He proposed to substitute one properly designed and adequately approached compact building for the seventy-four scattered goods stations of London. The site he suggested was a tract of flat land of suitable elevation in Clerkenwell, at present covered by small tenements, a brewery, and other buildings, which would have to be demolished. No build- ings of any historic value were involved. On the east and west were two of the broadest roads in London—Goswell Road and John Street, Clerkenwell—the width of each of which would be increased by 100 ft. Auxiliary to each of these roads were Clerkenwell Road and Old Street, and, in addition, twenty-six smaller streets converged on the precincts. Six tubes (railway approaches) would link the clear- ing-house up with the different railway systems, and as many as 300 trains a day could be dealt with. The motive power would be electricity, and a generating station might be set up on a suitable site, say at Barking.

COTTAGE DESIGN AND CONSTRUCTION.

The Ministry of Health have issued the following communication with regard to the designing and building of cottages: In rural areas houses of one storey can be economically designed, and the walls can be of lighter construction than for two-storey cottages. It is desirable for archi- tects when preparing their designs so to adapt them that alternative tenders may be obtained for walls constructed other- wise than in 11-in. cavity brick walls, and for the bedroom floors otherwise than with wood flooring on wood joists. In many localities materials suitable for concrete are available at or near a site, and there are various simple machines by which con- crete blocks can be made on the site of the works and used for building instead of bricks. Many simple forms of construc- tion are now being offered, and a number of these approved by the Ministry. The essential, however, of all approved forms is that there should be a continuous air cavity between the outer and inner leaves of the wall, and that a proper wall-head should be provided, binding the two leaves together to receive the roof-plate at the head of the wall. On the first floor level plates are not required, and if there is a wood floor the joists can bear direct on the inner leaf of the wall.

The bedroom floors can be formed with 3-in. thick fine concrete, on expanding metal reinforcement, with pre-cast re- inforced concrete beams. These floors can be calculated for a safe load of 56 lb. per sq. ft., plus the weight of the floor, using a factor of safety of one-fourth the breaking load. In many cottages now being built these bedroom concrete floors, finished with a steel float, form the finished floor, and although in the first instance some prejudice has existed against them, they are afterwards preferred on the score of cleanliness. The material is a non- conductor, slow to absorb and slow to part with heat, and, being in contact with the warm air of the upper parts of the rooms below, it gradually acquires and retains a temperature which does not give a shock to bare feet. In any case, a few mats for the bedside and utensils are all that are required.

Standard Specification for Cottages

A STANDARD form of specification, D.82, for use by local authorities and public utility societies in connection with State-aided housing schemes under Part III. of the Housing of the Working Classes Act, 1890, has been prepared by the Ministry of Health. In a memorandum issued with the specification the Ministry of Health state that every scheme which has not yet gone to tender, or is not at the date of the issue of this memorandum on the point of going to tender, should comply with the standard form of specification, which is drafted to cover various alternatives, and should be adapted to suit the particular circumstances of each scheme. The Ministry will not be prepared to approve schemes which show deviations from the standard specification, except in so far as the Ministry agree that they are rendered desirable by local circumstances and conditions. It is very desirable, the Ministry state, that quantities should be taken off in such a way as to enable tenderers to tender for as many or as few houses as they desire. In this way it is hoped to give an opportunity to small builders to tender for work to the extent to which their capacity permits, and it is hoped that in this way lower tenders may be obtained and greater expedition in the building of the houses. Local authorities should therefore arrange that quantities should be taken off for block units of types, thus:—If the lay-out provides for detached houses: quantities for one house of each type. If for semi-detached houses: quantities for each pair in types. If the lay-out provides for three houses or more: quantities for each block in types. The specification, the text of which is as follows, is to be adapted to local conditions and to the requirements of the particular works by alterations made in red ink and initialled by the architect. The specification describes materials and modes of construction which the Ministry of Health consider should generally be adopted for State-aided housing schemes, and in view of its present scarcity timber should not be used where other materials of equal or less cost and of equal efficiency can be substituted.

SPECIFICATION OF WORKS TO BE EXECUTED AND MATERIALS TO BE PROVIDED FOR THE ERECTION AND COMPLETION OF COTTAGES.

This Specification with the drawings of the respective types of Cottages forms part of the Contract between

and

Preliminaries.—The work to be done under this specification is intended to include all the general work preparatory to its execution; for the compliance by the contractor with all the conditions of the contract; for the plant, scaffolding, tools, and sheds; proper and sufficient protective works; notices, licences, and fees; for fire, workmen and other insurances; mess-rooms for workmen; regular clearance of rubbish; and for all other matters necessary for the completion of the several works satisfactorily to the true intent and meaning of the drawings and this specification.

Adequate latrine accommodation is to be provided and kept in a proper sanitary condition, and wherever practicable a connection is to be made immediately with public sewerage for the same, and the trapping and ventilation thereto are to be carried out in accordance with the regulations. Clear away the latrines and soil whenever necessary, and make good at completion all work disturbed by the erection of these conveniences.

Provide the water necessary for the use of the works.

Provide all necessary appliances for keeping the trenches and excavations free from water during the execution of the works.

Provide a suitable office, with the necessary heating, lighting, furniture, and sanitary accommodation, for the use of the architect when he is visiting the works, and for the clerk of works and for all attendance during the period of the work.

Provide the necessary watchman for the protec-

tion of the works, and such lighting as may be found necessary.

Provide any protection around the site that may be necessary for the public safety.

Attend upon, cut away for, and make good after all trades in all trades.

Protect and keep free from damage due to the operations under the contract, all fences, paths, trees, shrubs, greens, and other surfaces about the buildings or approaches thereto which are required to be maintained.

Excavator and Concrete.

2. Surface Soil.—Carefully remove and preserve any turf and stack where directed. Remove the vegetable earth or other surface soil to the depth required under the houses, and deposit the material in separate heaps for use or for clearing away eventually, and clear away what is not needed. All excavation is to be disposed of on the site, if possible.

3. Trench Digging.—Excavate below the foregoing level for the trenches required for the foundations to all the walls, piers, chimney breasts, and other work indicated on the drawings to the lengths, widths, and depths shown, or to greater depths should the earth at the levels indicated not be sufficiently solid for a good foundation. Level the bottoms of the trenches for the concrete.

4. Strutting and Planking.—Strut and plank all excavations wherever necessary.

5. Filling In.—Fill in and ram the best of the excavated earth about the foundation of walls, etc., and deposit or clear away the surplus as required.

6. Consolidate Earth.—Well level, ram and consolidate the earth below all floors and pavings, concrete, etc. All trench bottoms are to be inspected and approved by the architect before any concrete is laid therein.

7. Lime.—Where suitable blue lias or stone lime can be obtained locally they can, except as herein-after specified, be used in place of Portland cement.

8. Cement.—The Portland cement is to be of approved manufacture, of a quality which complies with the requirements of the current specification adopted by the British Engineering Standard Committee, slow-setting quality to be used generally.

9. Gauging Concrete, Mortar, etc.—Provide the necessary boxes for accurately measuring the ingredients for concrete, mortar, plastering, etc. All gauging and mixing is to be performed on proper wooden platforms.

10. Aggregate for Concrete.—The aggregate for concrete is to be composed of hard bricks free from lime mortar, stone, gravel, or other approved material broken to various sizes, but all to pass through a 1½-in. ring, with sufficient clean river or pit sand to fill up all interstices.

11. Concrete in Trenches.—For the foundations of all walls, piers, chimney breasts, etc., concrete of the sections shown on the plans, and composed of one part by measure of cement to eight parts by measure of the aggregate and sand, is to be laid in the trenches and carefully levelled to receive the brickwork. If ground lime is substituted for cement, it must be gauged six and one for hydraulic lime, and four and one for stone lime. The materials are to be well mixed in small quantities by turning over with a rake and shovel until the colour of the cement is distributed over the aggregate, and then with a due proportion of water, which is to be applied through a rose, and the concrete so prepared is to be at once deposited into the trenches and well consolidated.

12. Foundations.—Excavate for and lay Portland cement or lime concrete foundations, as described, those to external and party walls to be not less than 12 in. wider than bottom of wall, those to internal walls to be not less than 9 in. wider—none to be less than 6 in. thick. The bottom of concrete is to be not less than 2 ft. below the level of the finished ground outside the houses, but in clay soils the bottom of the concrete must not be less than 3 ft. 6 in. below the level of the finished ground outside the houses. The bottoms of all concrete foundations to walls must in all cases go at least 9 in. into the virgin soil, except where the foundation is in shale, chalk, rock, or other ground of a like nature, when the bottom of the concrete can commence directly either of these materials is met with.

13. Concrete on Sloping Sites.—In steeply sloping sites in clay, where the foundations owing to the natural slope of the ground would come at or near the surface, they are to be taken down at least two feet into the virgin soil.

14. Surface Concrete.—Lay over the whole surface of the buildings a bed not less than 4 in. thick of Portland cement concrete, similarly composed to that described for the trenches, levelled and prepared where necessary to receive such other floors and pavings thereon as may be specified.

15. Granolithic Paving, etc.—The floors in scullery, w.c., e.c., coal store, larder and back lobby are to be finished with a 1 in. thickness of cement and either limestone or granite chippings (two of cement to five of the material used) brought up to a hard smooth trowelled surface and kept damp for seven days after laying.

16. Concrete Lintels.—The concrete lintels are to be composed of one part of Portland cement, four parts of the aggregate to pass 1 in. ring, and two parts of sand. The lintels are to be reinforced by a steel rod ½ in. diameter for openings up to 4 ft. wide and ¾ in. diameter for openings above 4 ft. wide for every half brick in thickness of the wall carried, or for every 6 in. in thickness where stone walls are supported. The lintels are to be 6 in. deep for all apertures up to 4 ft. in clear width and

1 in. deeper for each additional foot or part of beyond 4 ft. The lintels are to bear 6 in. on walls at each end.

17. Concrete Eaves Course.—If a projecting course is desired it may be formed of similar concrete to that last described, not less than 4 in. and reinforced with ½ in. diameter steel rods at angles to the wall spaced 2 ft. apart, the upper surface and finished with rendered or cast or cement and sand or harled described in Plasterer. Where these over window openings they are to be cast in lengths to act as lintels with two ½ in. diameter steel rods embedded lengthwise in the same addition to the rods above specified. The wall carrying rafters must be bedded on the inner of the concrete eaves course.

Outside Paths and Pavings.

18. Paths and Pavings in Yards, etc.—All paths gravel or ash paths are to be carefully laid to towards approved drainage courses. Excavate and form the back garden paths with 3 in. ashes well rolled in. Excavate for and form front path up to entrance doorway, also the portion at back of houses, with tar paving thick of macadam, slag, granite or other clean material broken to pass a 1 in. mesh containing a proper proportion of fine material hot pitch and tar well mixed together and put into position and well rolled. Finish with layer of similar materials to pass a ½ in. well rolled and finally sprinkled with white or spar chips and again rolled. The ½ in. finish coat is to be executed just before the house handed over ready for occupation. The tar paving is to be laid upon 3 in. of ashes well rolled in, and fix at edge of tar paving 1½ in. x creosoted fir sawn edging, secured with 1½ in. x creosoted stakes 2 ft. long, pointed and driven into the ground at 4 ft. centres, or other suit approved edging. The front path may be finished of cobbles, rough stone paving, or other suitable material.

Drainage.

19. Soil Drain-pipes.—The pipes for soil drains to be "British Standard Tested," and to conform with the British Standard Specification No. 6 salt-glazed ware pipes, with socket joints and necessary bends and junctions, laid in straight and to even and regular falls on a bed of Portland cement concrete (1 to 8), as described for foundations 4 in. thick, and to be benched up at side to top of pipe with similar concrete.

under building are to be surrounded with concrete 4 in. thick. Pipes are to be laid not less than 18 in. deep below the surface of garden, 12 in. deep below pavings. The joints of pipes are to be caulked with gaskin and jointed in Portland cement and sand in equal proportions, and the of pipes is to be carefully cleaned out so as to be a perfectly clear and unobstructed waterway.

20. Rainwater Drains.—The pipes for rain drains are to be "British Standard," and to conform with the British Standard Specification No. 6 salt-glazed ware pipes, laid as above but with concrete.

21. Falls.—The soil and rainwater drains are to be laid to even and regular falls of not less than 2 in. in 10 ft.

22. Filling.—In filling in the trench after drains are laid and tested, great care is to be exercised so as not to disturb the drains, and the finest and best of the excavated material is to be used for packing round the pipes. The walls are to be carefully and thoroughly consolidated, rammed, and any depressions in the finished surface over drains made up.

23. Cleaning Eyes.—Form cleaning eyes where required on drains with sloping length of 4 in. salt-glazed ware drainpipe carried up to surface of ground and finished with salt-glazed ware pipe bedded in cart grease and sand in end of pipe round end of pipe with cement concrete 6 in. thick and cover the cleaning eye with 2 in. cast concrete slab, 15 in. x 15 in.

24. Gullies.—Provide and set where necessary to take surface water and at feet of rainwater bath and sink wastes, 4 in. salt-glazed ware reversible gullies, with rebated top and 6 in. x heavy cast-iron grating. Bed and surround gullies with Portland cement concrete and render to drain. Provide and fix at side of gullies 4 in. sink waste 4 in. salt-glazed open channel 2 ft. discharging over gully and set in cement concrete not less than 6 in. thick. Form brick or Portland cement concrete curb around all gullies (except face water gullies), and finish in Portland cement and sand, gauged 1 and 3, with rounded top, render the wall of house next gully with cement sand 9 in. high. Finish with return and angle top, and continue the curb around the open end of gullies taking sink wastes.

25. Manholes.—Build manholes in the positions required by the local authority, and of 2 ft. x 1 ft. 10½ in. minimum size, with 4½ in. brick to those 3 ft. deep, in cement mortar on Portland cement concrete bottom 4 in. thick, the bottom benched up with steep falls to channels in finished cement concrete, and the bottom and sides rendered watertight in cement and sand. Provide approved cast-iron coated manhole cover and frame 18 in. x 18 in., 24 in. x 18 in., or 24 in. x 24 in. opening as required, bed the frame in cement concrete, cover in cart grease and sand. Provide cast Portland cement concrete surround, finished in 1 in. granolithic on top as previously described to take cover. Provide and bed in cement in bottom

manhole salt-glazed ware half round main channel and, similar three-quarter round branch and bends. Manholes over 3 ft. deep are to have t-iron coated step-irons built into side 18 in. or 24 in.

6. Intercepting Trap.—Provide and build into side manhole nearest the sewer an approved salt-glazed intercepting trap, with cleaning arm and stopper bedded in cart grease and sand, and bed on and surround with Portland cement concrete and connect to drain. Provide and fix galvanized iron lever and chain to the stopper, the lever fixed to wall of manhole just under the cover with a stout staple.

7. Ventilating Pipe and Fresh-Air Inlet.—Provide 1 ft. fix at upper end of drainage system $\frac{3}{4}$ in. meter cast-iron coated ventilating pipe, as hereinafter described in Plumber. Provide and fix in a vertical position near the front manhole an approved fresh-air inlet, formed by carrying up a pipe connected to manhole 6 in. above level of ground, with a bend on the end, and bed same in Portland cement concrete, benched up and rendered smooth, and fix in the end of the bend a galvanized t-iron grating set in cement.

8. Connections to Sewers.—Where new roads are under construction, or are about to be constructed, the connection to the sewer in road is to be made before the footpaths and roadways are completed.

9. Testing.—No length of drain is to be covered until it has been tested and passed. The whole of the soil drainage system is to be tested again at completion with water, smoke, or other test to the satisfaction of the local authority, and is to be well checked out at completion of works.

Fencing.

10. Fences and Gates.—Construct the fences at front, back, sides and between houses with three courses of No. 8 gauge galvanized iron wire well aligned and fixed through holes in concrete posts secured to the end posts with $\frac{1}{2}$ in. diameter galvanized iron eye bolts passing through holes in the end posts and with nuts and washers. The posts are to be 4 in. x 3 in. tapered reinforced concrete posts set high above ground with the exposed surfaces perfectly clean and smooth, let into ground 18 in. and shaped at top. The reinforcement is to be bent $\frac{1}{2}$ in. back from the finished surfaces of posts. The end and corner posts where taking full strain of wire are to be 4 in. x 4 in. and to have reinforced concrete struts, and the feet of posts and gates are to be set in Portland cement concrete 18 in. x 18 in. x 18 in. The entrance gates and the end gates in the back fences are to be wrought iron or oak approved simple design, with latch and heavy chain bolted to the concrete post and hung on stout t-iron rides with nuts and washers and passing through holes in the gateposts. The gateposts are to be 4 in. x 4 in. reinforced concrete posts, shaped top, 4 ft. high above ground, let into ground 2 ft. 6 in. The gateposts are to have sunk holes so that the nuts of bolts do not project. The feet of gateposts are to be set in Portland cement concrete 18 in. x 18 in. x 18 in. Other kinds of fencing, if of equal strength and durability, can be used in place of the foregoing.

11. Dividing Walls at Back of Houses.—Dividing walls at back of houses 6 ft. high and 5 ft. projection are to be put where there are no outbuildings.

Bricklayer.

12. Bricks.—The whole of the building bricks used are to be good, hard, well burnt, common bricks. Where London stocks can be obtained, approved London or place bricks may be used for party walls and internal walls carrying no weight. Approved bricks, where available, may also be used. The bricks are to be picked square and true for facing work. No bricks are to be used for facing which will flake or waste away when exposed to frost or rain. Bricks below dampcourse in contact with earth and damp are to be carefully selected hard burnt bricks, not liable to be affected by the action of the earth or damp.

13. Lime Mortar.—The lime mortar is to be composed of one part of blue lias lump lime and three parts of clean, sharp river or pit sand, or one part stone lump lime and two parts of sand, and the lime to be ground before use the proportions are to be four and one and three and one, respectively.

14. Cement Mortar.—The cement mortar is to be composed of one part by measure of Portland cement to four parts by measure of clean, sharp sand, and when mixed is to be used immediately. Cement mortar that has commenced to set is to be knocked up again.

15. Mortar Mill.—Where a mortar mill is used, the proportion of sand shall not be less than one-third of the aggregate.

16. Brickwork.—The whole of the walls, piers, chimneys, etc., are to be built of the lengths, gables, hips, and thicknesses shown on the drawings, well bedded up in Portland cement or lime mortar, and the cross joints filled in solidly; the work is to be bedded up to even heights all round, and no part is to rise more than scaffold height above any adjoining work. If porous bricks are made use of above the dampcourse, the external face must be bedded in cement, roughcast or harled, as described in Plasterer. No main external brick wall is to be less than 9 in. thick.

17. Footings.—No brick footings are to be provided to any walls.

18. Brick Hollow Walls.—The hollow walls are to be built of two $\frac{1}{2}$ in. brick walls with a 2 in. cavity between them, with galvanised iron ties, two at least for every superficial yard, and one to every 12 in. in height to the sides of all openings. The base of wall is to be filled in solid with fine concrete to 6 in. below level of dampcourse. Great care is to be observed to keep bottom of cavity clear of

mortar droppings, and sufficient bricks, which can be removed for clearing out cavity at completion, must be laid dry at the bottom of the cavity. These bricks are then to be properly reset in cement.

39. Concrete Slab Hollow Walls.—The hollow walls may be built of two thicknesses of $\frac{3}{4}$ in. or 4 in. concrete slabs with a 2 in. cavity, and set in cement mortar bedded together with approved galvanised iron wall ties 3 ft. apart horizontally and every course vertically, and placed diagonally, all as described for brick hollow walls. If this method of construction be adopted, the outside leaf can be cast weathertight, or roughcast or harled, as described in Plasterer. The concrete slabs can be composed of one part of Portland cement to six parts of fine clean clinker, free from sulphur, cast in moulds, under pressure, with slightly hollowed or grooved edges, and properly seasoned before use. The slabs are to be not more than 3 ft. long and 12 in. high. These hollow concrete walls are to be built on ordinary concrete or on brick foundations up to, at least, the level of the dampcourse.

40. Arches.—All arches are to be segmental or semi-circular half-brick rings set in cement mortar. Brick on edge flat arches may be used to openings not exceeding 4 ft. wide with $\frac{1}{2}$ in. camber.

41. Pointing.—All the joints of brickwork are to be well filled in, flushed up and neatly weathered, where exposed as facings, as the work proceeds when the weather permits. The brickwork is to be either left rough or well raked out where the finishing is to be in roughcast or harled.

42. Work in Cement.—The half-brick walls and the chimney stacks, where they rise above the levels of the roof coverings, are to be built in cement mortar. The outer casings to flues above roof are to be $\frac{1}{2}$ in. thick.

43. Party Wall Gables.—The party wall gables or divisions in roofs are to be 9 in. thick, stepped, and finished on top with at least 3 in. clinker concrete carefully brought up to the line of the roof slope for nailing roof coverings to without the use of battens, for protection from fire.

44. Sundries.—Build in as the work proceeds, or afterwards bed in lime and hair mortar and point in cement mortar around all joiner's frames for doors and windows; bed in mortar all beams, sleepers, and plates, lintels, templates, slips, stone, and metal work set in the brickwork.

45. Wire Reinforcement.—Where half-brick walls are used to enclose coal stores provide and build in at 1 ft. 6 in. and 3 ft. above floor level approved galvanised wire mesh as reinforcement to strengthen the walls to resist the coal thrown in.

46. Partitions.—All division ground floor walls carrying upper floor joists are to be $\frac{1}{2}$ in. brick. Build the internal partitions where indicated on the drawings with 3 in. concrete slabs, as previously described, set in cement mortar and well pinned in and tied to the brick walls. Where a second upper storey is to be formed, 3 in. partitions may be used on the first floor, but in cases where these partitions carry the second floor joists they must come immediately over $\frac{1}{2}$ in. brick walls on the ground floor.

47. Sleeper Walls.—Where there are wooden joists to the ground floors, build $\frac{1}{2}$ in. honeycomb sleeper walls, and $\frac{1}{2}$ in. solid brick fender walls.

48. Dampcourses.—Lay on all walls, piers, chimney breasts, sleeper and fender walls, etc., a dampcourse the full thicknesses of walls formed of two courses of stout slates breaking joint, set in cement mortar gauged three and one; or an approved pure bitumen dampcourse well lapped and set upon a bed floated to receive the same may be used. Lay over the ground floor openings and openings in gables of hollow walls approved pure bitumen dampcourses turned up over the inner concrete lintels and dressed down in the hollow with a slight lap each way and 3 in. beyond the width of the opening, and taken to within $\frac{1}{2}$ in. of face of external wall. Slate dampcourses are to be laid in all the chimney stacks at the point where they rise above roofs.

49. Flues and Chimney Heads.—Build the necessary corbelling over for the breasts and stacks, form all chimney flues of the sizes shown, which are in no case to be straight or less than 9 in. x 9 in., with as easy bends and turns as possible, and properly gather and parge the flues as the work proceeds and core at completion. The chimney stacks where so shown are to have projecting courses at their heads, and each flue is to be finished with a chimney pot set and well flanchued up in cement mortar.

50. Chimney Openings.—Build in kitchen range openings 2 in. x $\frac{1}{2}$ in. cambered and caulked iron chimney bars 18 in. longer than the opening and turn one ring arches over them and at all fireplace apertures, and carefully gather in the flues immediately above the openings. Concrete lintels may be built in instead of arches or bars.

51. Concrete Hearths.—Where indicated on drawings prepare for a self-setting range by forming a large concrete hearth 4 in. thick finished hard and smooth with 1 in. granolithic paving, and make a smokeproof connection to the brick flue from the iron flue pipe of the range. Form similar concrete and granolithic hearths to other fireplaces on ground floor. Concrete hearths 3 in. thick finished with 1 in. granolithic paving are to be set generally upon fillets nailed to the upper floor joists. No timbers or plugs to be inserted within 6 in. of any flue.

52. Trimmer Arches.—Where concrete hearths are not used, $\frac{1}{2}$ in. brick trimmer arches are to be turned between the timbering on proper springing fillets and filled in solidly with cement concrete to receive the 1 in. granolithic paving.

53. Stoves, etc.—Fix and bed solid all stoves, ranges, mantelpieces, etc., provided, and make good all round after fixing; provide and build in firebricks in all flues where exposed to flames.

54. Mantel to Range.—The mantel to range may be formed in cement, slate, stone, or brick with wood shelf over.

55. Rendering.—Roughly render the faces of brickwork or walling over smoke flues passing through floors, ceilings, and in roof spaces with cement mortar.

56. Copper.—Provide and fix in the positions indicated on the plans independent eight to ten gallons rustless iron pans, with furnaces for gas or other fuel, with iron fine pipes and bends to connect with brick flues above.

57. Air Bricks.—Two 9 in. x 6 in. air bricks are to be built in the external walls for each larder and e.c. and for each w.c. and one 12 in. x 9 in. air brick is to be built in for each bedroom having no fireplace. Proper cast flues for same are to be formed through cavity walls.

58. Ventilation under Floors.—Where wood floors on joists are used on the ground floor a through current of air is to be provided through every space so covered by an adequate number of 9 in. by 3 in. air bricks built in as last. Where any part of the building has a solid floor, then through ventilation is to be provided to the spaces under joisted floors by 4 in. socketed drainpipes connected to a flue and air brick built in the external wall.

59. Sink.—Provide and fix a standard pattern Belfast or London sink with waste and trap in each scullery set in cement mortar on two 4 in. drainpipes solidly filled up with concrete in front and resting on two brick corbels at back.

60. Steps.—Set in cement all stone, brick, tile, or granolithic concrete steps; the steps in each case are to be finished 2 in. above the levels of the floors at the front door, but level with the pavings of lobbies and sculleries and in similar positions.

61. Window Sills.—Where window sills are adopted they may be of stone, brick, or concrete, or of two courses of plain tiles, bedded in cement and set projecting 2 in., the bottom course having a continuous nib. The tiles are to be set weathering. Stone, brick, and concrete sills are to project 2 in. and to be throated on the underside.

62. Reveals and Sills.—Where hollow walls are unplastered, put thick slates or other approved materials to the reveals and sills, set in cement mortar to cover wall cavities as necessary.

63. Larder Bench.—The bench in the larder is to be natural stone, patent stone, granolithic, or slate slabs on projecting brick courses built in cement.

64. Fair Face to Brickwork.—Finish the interior walls of scullery, larder, w.c., e.c., back entrance lobby, coal store, and outbuildings with a fair face and point with a neat, flat joint for lime-white or distemper.

65. General.—Do all necessary rough cutting, beam-filling, and everything required to complete the bricklayer's work to the satisfaction of the architect.

Waller.

66. Walls.—Where stone is procurable locally and the cost compares favourably with that of brickwork, stone walling may be substituted for brickwork. The stone walling must be at least 12 in. in thickness. Build up from the concrete in trenches the external walls of the lengths, heights, and thicknesses indicated on the drawings in uncoursed rubble set in lime mortar as described for the brickwork, inserting a sufficient number of through bonding stones and large quoins stones. Where it is intended to face the walls with stone, the whole is to be built with random rubble set in lime mortar, and the joints struck as the work proceeds when the weather permits. Carefully dress the quoins to all the apertures and at the salient angles. Form arches, or finish the heads over the apertures with squared stones as indicated on the plans. Build in cement all the chimney heads up from just below the roof with coursed rubble, having dressed stones and oversailing courses as shown, and point as above described. The external faces of stone walls may be roughcast or harled as described in Plasterer. The dampcourses will be as described for those in the brick walls, and the specification for bricklayer's work will generally apply to the waller's work.

Tiler.

67. Tiles.—Tiles should not be used for roofs with a pitch of less than 45 degrees. The tiles are to be hard, well and evenly burnt sand-faced tiles of an approved make and colour, made with nibs and laid to a 4 in. gauge, but not less than a 2 in. lap throughout. The tiles are to be laid on $\frac{1}{2}$ in. by 1 in. sawn battens, and every fifth course is to be nailed with two 2 in. stout composition nails to each tile. The two courses next to all eaves, gables, hips, and ridges are to be nailed each course. Where no fascia or soffit boards are provided, the tiles are to be nailed to 1 in. rough boarding between the eaves and wallplate. All tiling may be pointed or torched on the underside in the manner customary in the district.

68. Verges.—The verges are to be formed with tile and a half tiles, with a tile undercloak, pointed in cement, exposing the ends of the tiles.

69. Eaves.—Put a double course of tiles at all eaves, bedded in cement mortar.

70. Ridges.—Cover the ridges with half-round or other approved section ridge tiles bedded down solidly in hair mortar and pointed in cement mortar, and gradually tilt them up towards the gable ends. Fill in open ends with plain tiles in cement.

71. Hips and Valleys.—The hips and valleys are to be formed with proper hip and valley tiles coursed and bonded with the ordinary tiling and nailed at every course. The hip tiles are to be bedded in hair mortar and pointed in cement mortar.

72. Soakers.—Fix the lead soakers provided by the plumber.

73. General.—Make good all damage done to the tiling, and at completion leave all roofs sound and watertight and clean out eaves, gutters, and downpipes. N.B.—Bridgewater, Roman, or pantiles may

be used where customary, and the specification varied accordingly.

Slater.

74. Slates.—Slates should not be used for roofs with a pitch of less than 30 deg. The slating is to be of outside sizes of good quality Welsh or local slates free from defects, laid with a lap of not less than 3 in. throughout, each slate being fixed with two 2 in. stout composition nails to 2 in. x 1 in. battens. Where no fascia or soffit boards are provided, the slates are to be nailed to 1 in. rough boarding between the eaves and wall plate. All slating may be pointed or torched on the underside in the manner customary in the district.

75. Verges.—Trim and point the verges in cement and fix an extra course of slates under verges.

76. Eaves.—Put a double course of slates at all eaves, bedded in cement mortar.

77. Ridges and Hips.—Cover the ridges and hips with half-round or other approved section blue tiles bedded down solidly in hair mortar and pointed in cement mortar. Fill in open ends with plain tiles in cement.

78. Soakers.—Fix the lead soakers provided by the Plumber.

79. General.—Make good all damage done to the slating, and at completion leave all roofs sound and watertight, and clean out eaves gutters and down-pipes.

(To be continued.)

WEEKLY HOUSING RETURN.

The return of housing progress issued weekly by the Ministry of Health says:

During the week ended August 23 the new housing schemes submitted to the Ministry of Health numbered 228 and the schemes approved 102. The total number of schemes so far submitted is 4,396, of which 1,310 have been approved. The approved sites cover an area of 17,481 acres, and plans have been approved which provide for the erection of 15,917 houses. The above figures include, besides the schemes of local authorities, those of public utility societies. The number of houses upon which building work has begun is about 8,000. In order to expedite progress with housing schemes, the Ministry of Health have decided to amend the form of the Compulsory Purchase Order, 1911, so as to shorten the procedure which local authorities have hitherto been required to adopt under that order in submitting proposals for the compulsory acquisition of land for housing. By an amendment of the regulations regarding advertisement, deposit of plans, notice to owners, and the presentation of objections, and by shortening the period necessary for the completion of each of those stages, the time entailed by the whole process has been shortened from about two months to about three weeks.

In pursuance of the scheme of converting houses into flats, two thousand such houses in London have now been inspected by the London Housing Board, and nearly a thousand have already been scheduled as generally suitable for conversion. The Office of Works will undertake the work of conversion, and in two or three of the London boroughs the preliminary stage of these operations has now been entered upon. It is intended that the flats created under this scheme should, as far as possible, be self-supporting and should yield an economic rent. The choice of tenants for them will be entirely in the hands of the local authorities, by whom the flats will be taken over when completed. In a number of cases the procedure being adopted by these authorities is to make a list of applicants, which will be gone through as flats become available, taking into consideration the need of each applicant for house room and the circumstances which have brought about that need. This method, which was adopted on the recommendation of the Ministry, will admit of full and fair consideration being given of such claims as arise from war service, extent of family and so on. In view of the need for further dissemination of information on the Government's housing

proposal, the Ministry some time ago invited the co-operation of voluntary organisations concerned in national welfare. A generous response was made, and as a result 135 meetings—promoted by workers' educational organisations, diocesan conferences, universities, and rotary clubs—have been arranged to take place between July 1 and November 30. Blackpool Sands has this year had its housing "revival."

Details of local authorities' schemes dealt with during the week are as follows:

Building Sites.

Schemes Submitted.—The number submitted by sixty-eight local authorities was 224, bringing the total number of schemes to 4,332, covering approximately 40,500 acres.

Schemes Approved.—One hundred and two schemes were approved, comprising an area of 611 acres. This brings the total number of local authorities' schemes approved to 1,298, representing approximately 17,200 acres.

Lay-outs.

Schemes Submitted.—Fifty schemes were submitted by thirty-four local authorities, bringing the total number of schemes submitted to 728.

Schemes Approved.—Thirty-four schemes were submitted by twenty-seven local authorities and approved, bringing the total number of schemes approved to 342.

House Plans.

Schemes Submitted.—Thirty-four schemes, representing 2,790 houses, were submitted by twenty-two local authorities. This brings the total number of local authorities' schemes submitted to 423, representing 23,928 houses.

Schemes Approved.—Twenty-seven schemes, representing 1,705 houses, were approved, bringing the total number of schemes approved to 243, representing 15,465 houses.

COMPETITIONS OPEN

October 4.—"Daily Mail" Ideal Labour-Saving Homes.

The "Daily Mail" are offering prizes of £250, £100, and £50 for the best designs for the labour-saving house, which will be one of the features of the forthcoming Ideal Home Exhibition at Olympia in February, 1920. Architects are to submit designs for houses for a professional class family, designed primarily for the saving of time and labour-saving. Drawings, addressed to the Secretary, Ideal Labour-Saving Home Competition, 130, Fleet Street, E.C.4, to be delivered before October 4, 1919.

October 20.—Oxford: Housing Scheme.

The Oxford City Council invites architects to submit designs for the laying out of a congested area and the building of cottages thereon, and has appointed Mr. H. V. Lanchester, F.R.I.B.A., as assessor. All designs must be sent to the Town Clerk not later than October 20.

City of Salisbury: Lay-out of Two Housing Sites.

Sir Alexander Stenning, the assessor, has made the following awards: First place, Mr. W. Edwards, Taunton; second, Mr. Stanley R. Miller, A.R.I.B.A., Bloomsbury Square; third, Messrs. Blount and Williamson, Salisbury.

Nottingham Town-planning Competition.

Competitive plans for the laying-out of a building site in Nottingham, and the erection of 1,200 municipal dwellings, have

been judged by Mr. Gotch, architect, of Kettering, the assessor appointed by the Corporation. Prizes of £350, £100, and £50 were offered, and Mr. Gotch's award will be considered by the Housing Committee at an early date.

GOVERNMENT ARCHITECTURAL APPOINTMENTS.

The President of the R.I.B.A. has made the following appointments at the request of the Government Departments concerned:

Sir Frank Wills, F.R.I.B.A., Member of District Selective Committee No. 8B (Bristol), under the Appointments Department of the Ministry of Labour.

Mr. J. W. Cockrill, A.R.I.B.A., Member of the Production Committee for Housing Region M., under the Ministry of Health.

At the request of the Secretary of State for India the President has nominated Mr. Harold Dicksee, A.R.I.B.A., assistant to the consulting architect of the Province of Madras, and Mr. A. L. Mortimer, A.R.I.B.A., as assistant to the consulting architect of the United Provinces. The President has also nominated Mr. A. W. Graham Brown, Student R.I.B.A., as chief assistant to Mr. R. E. Stewardson, A.R.I.B.A., of Shanghai.

COMING EVENTS.

THURSDAY AND FRIDAY, SEPTEMBER 18 AND 19.

Meetings of the Iron and Steel Institute at the Institute of Civil Engineers, Great George Street, Westminster, on Thursday at 10.30 a.m., and on Friday at 10 a.m.

WEDNESDAY, OCTOBER 8, TO SATURDAY, NOVEMBER 1.

Housing and Health Exhibition at the Kelvin Hall of Industries, Kelvingrove Glasgow, from the 8th to the 1st November. The City Corporation have found it necessary to obtain increased accommodation, and have taken possession of the building adjoining the Kelvin Hall. It has been decided to erect two model cottages in the annexe.

ACQUISITION OF LAND FOR SCOTTISH HOUSING SCHEMES.

The procedure to be adopted in the acquisition of land for housing schemes is the subject of a circular issued by the Scottish Board of Health. Negotiations with the owners as to terms are to be carried out by district valuers, a list of whom are appended to the circular—whom will report to the Chief Valuer. After consideration the Chief Valuer will decide as to the advisability of carrying out the purchase, but the local authority must obtain the sanction of the Board of Health before acquiring the land. Where it is not found possible to negotiate a purchase or feu of a desired site, the local authority should consider whether, if no other suitable site is available, they should take steps for compulsory acquisition in terms of Section 2 of the Housing, Town Planning, etc., Act, 1909. In all cases where local authority propose to erect houses under the State-assisted scheme on ground already their property, the Board desire that the opinion of the Valuation Office should be obtained as to the present value of the ground, and they are prepared to accept and allow as part of the cost of the scheme the value so determined by the Valuation Office.

The Week's News from Far and Near

Forty New Houses for Bromyard.
It has been decided to erect forty new houses in the rural district of Bromyard. The cost of each house is put at £500.

Houses without Front Entrances.
Houses built by the Duke of Bedford on his estate at Woburn, Bedfordshire, have no front entrances.

Forty New Houses at Sidmouth.
Plans for workmen's dwellings at Sidmouth, the Housing Commissioner has applied for the Vicarage Field, Winslade Road, and Alexandria Road sites, sufficient for comfortable houses.

Acton Housing Scheme.
The Acton housing scheme is now so far advanced that it is fully expected the majority of the 700 houses to be erected will be for occupation by next spring.

The Cenotaph.
Application has been made to the Office of Works by the Wimbledon Corporation for erection in the borough the Cenotaph now at Whitehall.

Sedgefield Housing Appointment.
Mr. H. J. Jones, R.A.F., has been appointed architect's assistant to Sedgefield Housing Committee at a salary of £150 per annum.

Kingsway Building.
The Kingsway Building has restarted at the Aldwych on the western side of Kingsway. The General Electric Company is being erected.

The Building Puzzle.
The promoters of an Acton cinema state they can get millions of bricks and abundant labour, the only difficulty being the way trucks for transport, which are under Government control.

Architectural Vacancies.
The Teddington Urban District Council are inviting applications for the appointment of an architect in connection with the housing scheme. One of the stipulations is that applicants must be members of the R.I.B.A.

Fireproof Concrete Cottage.
A concrete cottage is being erected by the United Asbestos Company at Uxbridge, near Uxbridge. The floors and walls are made of asbestos-faced slabs, in between with concrete. There are two bedrooms and a bathroom.

Architectural Partnership.
A partnership has been arranged between Messrs. Lanchester and Rickards, R.I.B.A., and Mr. Geoffrey Lucas, R.I.B.A., who will practice as architects in the style of Lanchester, Rickards, and Lucas, at 47, Bedford Square, W.C.1.

House Building at Blackpool.
Blackpool houses are being erected in several parts of the town. Plans of a number of houses, in addition to the over 400 houses under the housing scheme, have been accepted. In pre-war years about 700 were built annually.

Housing and Hostels.
The Government have come to a decision to enable hostels in all parts of the country to be vested in the Ministry of Health, and form part of the national housing scheme. There are a great number of hostels available, many are comfortable, furnished, and some are at present unoccupied. A case in point is the large

hostel at Coventry, which has accommodation for some 2,500 persons. These buildings will not be ready for use immediately, but it is not thought that their adaptation will be particularly expensive. The converting of empty houses into flats is well in hand, especially in London, where the inspection of property has been nearly completed. Local authorities are stated to be cordially helping the scheme.

New School for Sheppey.

The Kent Education Committee have decided to provide a new school at Queenborough for about 450 children in the urban district of Queenborough and the rural parishes of Eastchurch, Elmley, Harty, Leysdown, Minster, and Warden.

Hartlepool Housing Schemes.

The Hartlepool Town Council have received through the district valuer from the landowners' agents an offer to sell for housing eight and a half acres of land in Hart Road at £1,150. The District Valuer recommended the acceptance of the offer, and to this the Council agreed.

London Building Schemes.

Work upon the several building development schemes held up in the City of London during the war will shortly be resumed. There are estates in and around King William Street that in the near future will be covered by imposing blocks. Street widening projects will also be proceeded with shortly.

Geological Building as Memorial.

It is proposed to erect a geological building in connection with the University of Wisconsin as a memorial to Dr. C. R. Van Hise, late president of the University, thus bringing together under one roof the departments of geology and mining engineering, and the State and Federal geological surveys.

Belfast School of Arts and Crafts.

Mr. Ivor Beaumont, A.R.C.A., M.S.A., F.R.S.A., F.I.B.D. (London), Art Master and Lecturer in Design, Architecture, and Painting at the Northern Polytechnic Institute, London, has been appointed head of the City School of Arts and Crafts at a commencing salary of £600 per annum.

President R.I.B.A. and Interviews.

The President of the R.I.B.A. states that, while always glad to see members who may wish to consult him on Institute or personal matters, he is not always able to receive them without previous notice. He would, therefore, be greatly obliged if members who desire an interview would communicate in the first place with his secretary, Mr. Barrett, who will always arrange an appointment.

Surplus Government Property.

The sum realised by sales of surplus Government property, as shown by the latest official figures, is now £162,509,246. This includes £100,633,988 for sale on trading account, £46,563,905 for other surplus stores at home, and £15,311,353 abroad. Among important items sold by the Disposal Board are: Asbestos cement £41,644, and nails £16,125.

The Devastated Area in France and Belgium.

The French Red Cross organisation to bring home to the British public the real state of affairs in the devastated area of Northern France and Belgium have arranged a series of personally conducted

tours through the region, in which a number of representative men will be the guests of the French Red Cross. The R.I.B.A. has been approached, and it has been arranged that the President (Mr. John W. Simpson) and Sir Banister Fletcher, Sheriff of London, and members of the R.I.B.A. Council, will start on a tour, leaving London on September 4.

Sidlesham Landmark.

An ivy-covered building at Sidlesham, one of the most interesting landmarks in West Sussex, midway between Chichester and Selsey, is to be demolished. It was erected in 1755. It is intended to use the French bricks of which it is constructed in building modern premises.

A Shakespeare Hostel for Sale.

Shakespeare Hotel, an interesting old fourteenth-century half-timbered building in Stratford-on-Avon, is in the market. Originally the building was a manor house, but for 200 years it has been an hotel. Centrally situated between Henley Street, the birthplace of Shakespeare, and Holy Trinity Church, the resting-place of the poet, the hotel has always been a favourite resort.

Gifts to Aberdeen Art Gallery.

Lord and Lady Cowdray of Dunech have promised to give Aberdeen Town Council £20,000 to provide a hall and art museum in the proposed new wing of the Aberdeen Art Gallery. The hall and museum will be named after the donors. Further extensions and their costs include a gallery, £14,000; a war memorial and a court, £25,000; and the site, £7,000. Sir James Murray has promised £2,000 towards the £66,000 required.

Birkenhead House Construction Co., Ltd.

A private company with this title has just been registered with a capital of £5,000 in £1 shares, to carry on the business of builders, contractors, builders' merchants, makers of and dealers in building requisites, furniture, furnishings, fixtures, and household requisites, etc. The subscribers are D. Evans, 8, Hamilton Square, Birkenhead, builder and estate agent; and W. E. Kiffen, 76, Park Road West, Birkenhead, contractor, and they are first directors.

Edinburgh Housing Progress.

The Edinburgh Corporation Housing and Town-planning Committee have adjudicated upon the competitive plans submitted by architects in Edinburgh and Midlothian for the groups of houses about to be erected at Saughton, Craigleith, Wardie, and Willowbrae. The number of houses to be erected (including those at Gorgie, where building operations are already in progress) is 3,500, and it is the intention to proceed with the four new areas at once.

The Cost of Land.

A table showing the cost of land for the housing schemes of local authorities where loans for purchases have already been sanctioned by the Ministry of Health has been published. The average cost per acre in thirty-five county boroughs is returned at £198; forty-four other boroughs and urban districts with populations exceeding 20,000, at £190; 127 boroughs and urban districts with populations of less than 20,000, at £180; fifty-eight rural districts, £112. The average cost per acre for the 264 local authorities is £188. Work is now in progress on schemes for 4,823 houses.

TRADE AND CRAFT.

Two New Introductions.

The illustrations show two of the newly-designed gas stoves of the Davis Gas Stove Company, Ltd., of 60, Oxford Street, London, W.1. The gas interior fire, Fig 1,



FIG. 1.—"N.H." GAS INTERIOR.

has been produced with a special view to national housing requirements, and is described as the "N.H." gas interior. It is supplied complete, ready for building in.

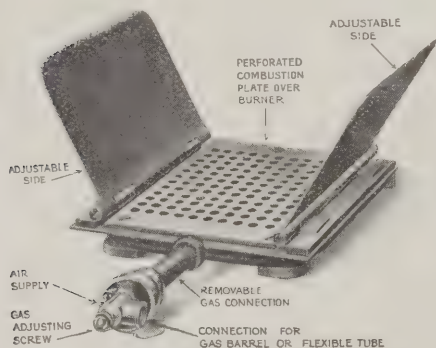


FIG. 2.—RANGE INSET "BURN-ALL."

Fig 2 shows the Davis range inset "burn-all," which consists of a portable folding stove with adjustable sides, for fitting temporarily into the fire-box of any existing kitchen range. Its purpose is to furnish a ready and convenient means for the rapid disposal, by burning, of every species of kitchen refuse, wet or dry, when the kitchen range coal fire is not in use. A connecting piece is fitted for the accommodation of flexible tubing run from the nearest gas supply, the burner, which is masked from falling ash, heating the perforated plate, through the holes of which the flames protrude for the rapid incineration of the refuse it is desired to be rid of. The adjustable sides rest against the sides of the fire box and thus prevent the refuse from falling anywhere except on the combustion plate.

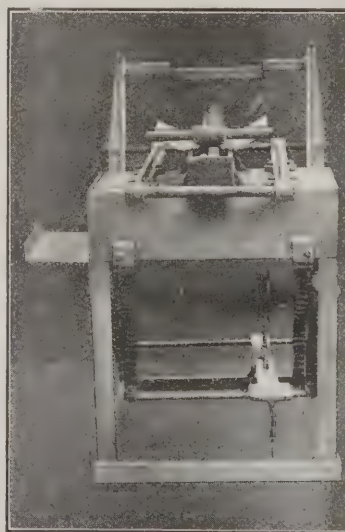
A Substitute for Glass.

We have received from Messrs. Burrell and Lethern, of St. Martin's House, 29, Ludgate Hill, London, E.C.4, a sample of Glassnet, which should be especially useful as a substitute for glass in factories, hot-houses, out-houses, and in the construction of illuminated signs. Glassnet is supplied in any colour and in six different grades, thus making it adaptable

to all requirements. The weights per square yard range from 1 lb. 2 oz. to 3 lb. 9 oz. and 5 lb. 3 oz., the two latter types being claimed by the firm to withstand a weight of 350 lb. per square inch. Fixing of the substitute, which can be cut to shape by an ordinary pair of shears, may be done in the case of doors, partitions, and windows by means of a small fillet tacked round the edge of the framing or by a bead tacked inside a rebate. The firm claim that Glassnet will withstand weather, and will not rust, and that it is less expensive than glass.

Paint and Pigments.

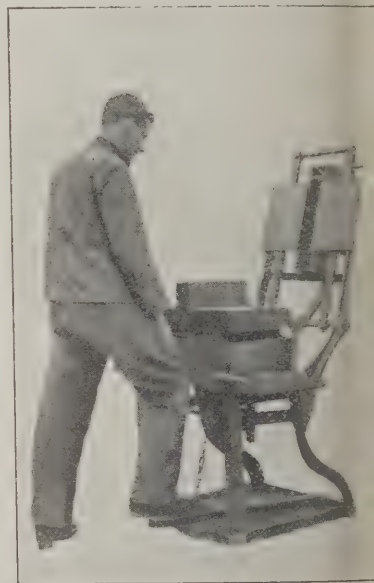
Cuirass Products, Ltd., of 39, Victoria Street, Westminster, S.W.1, writes as follows: "We read with great interest your article on the history and properties of paints, and can endorse your opinion as to the importance of the fineness of the pigment. We have in use a black paint made from tar which has very great lasting properties. The pigment in this paint is not added, and it would be impossible to grind any pigment as fine as this pigment is. On the paint being highly diluted with benzol and put under a powerful microscope little black particles can be seen floating. The diameter of these small black particles is about the same as that of a microbe, and even when the paint is heavily diluted with benzol they do not fall to the bottom of the liquid, but remain in suspension. This paint has consequently a great spreading power (15,000 sq. ft. to the cwt. on smooth metal). The paint goes ten gallons to the cwt. As this paint runs like water a man covers double the surface in given time as compared with oxide paints. The vehicle in this paint is waterproof and elastic and adheres very strongly to steel. It does not crack or blister in a tropical sun, standing as it does 700 deg. F. If we may say so, we think in your article the vehicle is not given sufficient importance. The vehicle in all good paint should be absolutely waterproof, and, if possible, acid and alkali-proof. It also should be an absolute non-conductor of electricity, and should not become brittle even after it has been applied to steel for five years, all of which is true of the paint we manufacture."



THE "AUSTRALIA" CONCRETE BLOCK-MAKING MACHINE, SHOWING RAMMING APPARATUS DOWN.

An Australian Concrete Machine.

The Australian Concrete Block Machine Syndicate, Ltd., of 608, Salisbury House, London Wall, have placed on the market a concrete block machine, the invention of Mr. G. A. Tonkin, who was at the outbreak of war manager of the Adelaide Concrete Block Yard. The "Australia" machine is simple in construction, easy working, and is capable of making any types of blocks required for building purposes. Blocks of any thickness up to 12 in. can be produced by the machine, which has a mechanical ramming apparatus and a false bottom on which rests the block mould. As the block is finished a lever is operated, ejecting the block from the machine, thus obviating all heavy lifting but maintaining speed in output. Additionally, the making of the blocks is all done with the machine in a horizontal position, and as they are left in that position on the trays to set, the prescribed quantity of water recommended by the Institute of Concrete Engineers can invariably be used. It is claimed that one



THE "AUSTRALIA" CONCRETE BLOCK-MAKING MACHINE AT WORK.

working a normal eight-hour day could mould 350 blocks, measuring 24 by 12 by 8 in. of any thickness up to 12 in. The machine could also claim that approximately 300 blocks could be laid daily, which would equal considerably over 3,000 bricks. A special feature of the machine work is the 'piece' block which allows, in a wall, continuous horizontal ventilation, and, for the reason of there being no contact between the outer and inner walls, eliminates the possibility of dampness penetrating. This cavity could also be used for the passage of pipes for heating.

Demonstrations are being carried out daily at the rear of Australia House, Strand, by members of the syndicate, some of whom have served with the Australian forces.

Athens Exhibition.

King Alexander of Greece has consented to open the Exhibition of British Manufactures organised by the Federation of British Industries in Athens. The date is not yet known, but it is expected to be Sunday, October 19. This will be a public "gala" opening, but the exhibition will be arranged and the Exhibition to trade visitors on the date already fixed, October 13 (October 1, O.S.).

Architects' Journal
Wednesday, Sept. 10, 1919

The Architects' Journal
Volume L. No. 1288

THE ARCHITECTS' JOURNAL

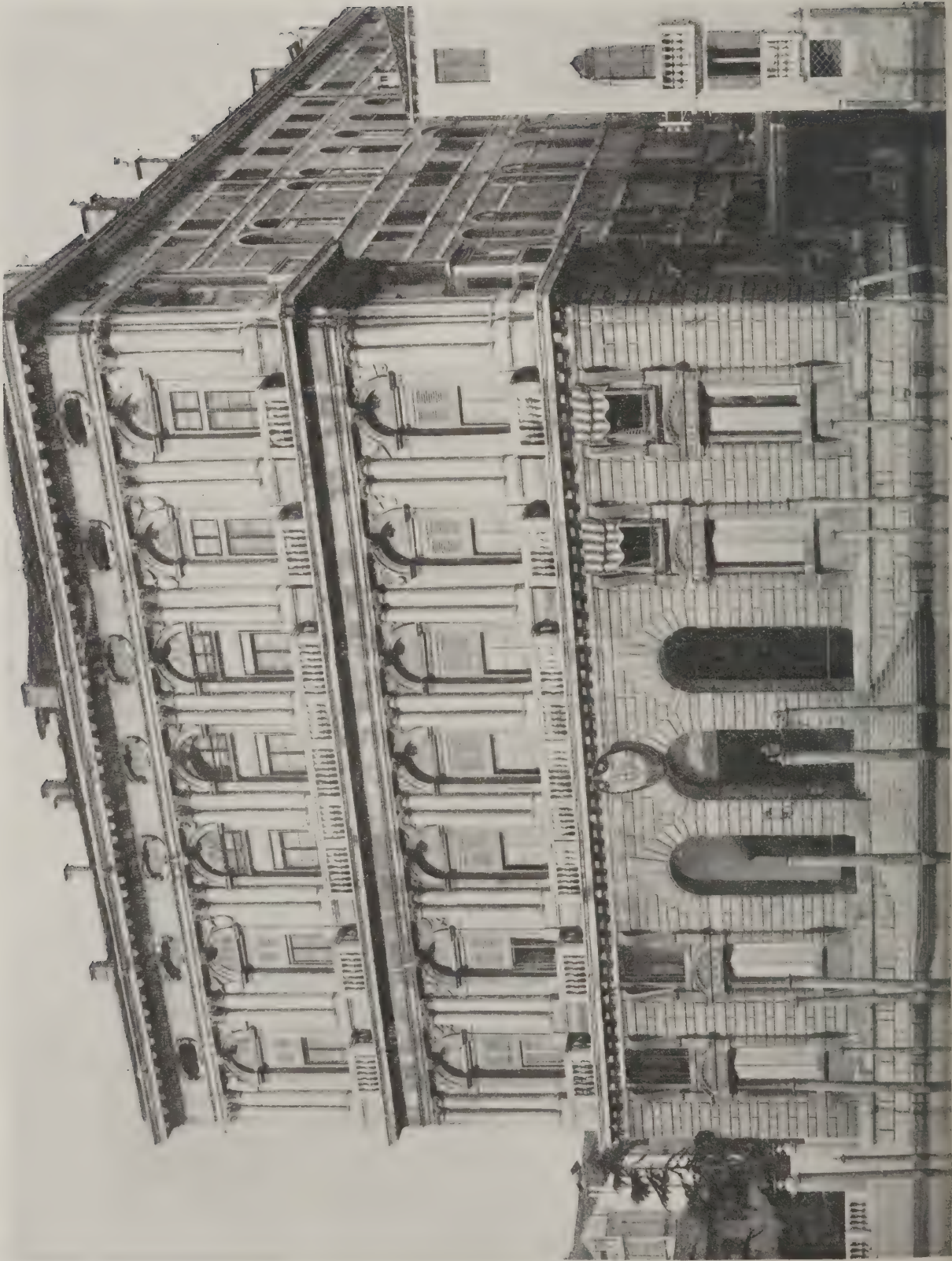
FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



SOUTHWARK BRIDGE, LONDON, FROM BANK SIDE.

(From the drawing, dated 1823, by Thomas H. Shepherd, engraved by W. Willis.)



PALAZZO "CORNERO," VENICE. SANSOVINO, ARCHITECT.

THE ARCHITECTS' JOURNAL

Joint Editors: A. E. RICHARDSON, F.R.I.B.A., and J. FINDLAY McRAE.

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Plain Words on Pisé de Terre

[AT pisé de terre dwellings have become a "practical proposition" is a very positive indication of the straits to which the housing problem has been reduced. When the future historian comes down in cold print that in the twentieth year of the twentieth century there was such a dearth of houses that commonly one of them would be packed with half a dozen families—nay, that, against all odds, a whole family: in extreme but still too common cases two or even three families would be crammed together in one room—the reader of the third or fourth generation onward will suspect that the historians are imaginatively magnifying a sordid fact into a story of truth. When he reads that shortly after the conclusion of the Great World War there was a proposal to make house-walls of rammed earth, because of the shortage of real building materials, merely to save expense, he will exclaim, "Nay, but the shadow of Balbus the wall-builder, these historians are ingenious in the invention of falsehoods, for one is so large and tough that no human gorge could swallow it." Incredible indeed it will seem that the Romans should at this time of day be asked to come out of their cave-dwellings, their superannuated barracks or railway trucks, their converted or unconverted camp huts, and revert to the rammed earth and pounded chalk of their mediæval ancestors. For the half-timber work of the ancients was commonly made with any sort of stuff that would stay where it was.

It was not until the Great Fire had burnt out the plague-haunted city, and meanly conceived improvements had been thereby thoroughly discredited, that bricks came into general use, commonly with a thin coat of plaster to cover up the brick rubble between the joints—a practice well known to the ancient Egyptians, who covered over their rough adobe with a coat of stucco, which they decorated with painted arabesque though it may be, the old half-timber work is only less primitive than wattle-and-daub, and to revert to it is to take a long stride back towards the British barbarism. Nor does one love it the more because its advocates can point to an example of walling that is alleged to have endured for a few hundred years. That an evil thing, which ought never to have existed, has survived for a century is no argument for its further extension either in time or in space, but rather should provoke an immediate appeal to the axe. Mud, whether of clay or of common or garden humus—it seems really necessary to speak in plain words to enthusiastic reactionaries—is not a noble material, nor is it beautiful. We very gravely doubt whether it is sanitary; but that is a question that one rather refers to the Ministry of Health, who, we are confident, will not hesitate to condemn any building material that is cheap and nasty. But whether or not pisé-de-terre construction is noxious to health, whether or not it breathes through pores as efficient as the joints of bricks, whether or not it sucks moisture

from outside and exhales it into the room, whether or not it cracks in the fervent heat or crumbles after a hard frost, or whether it is infested with infusoria and gives off noxious emanations—independently of all these considerations—the insuperable objection to rammed earth as a building material—so to call it for want of a more appropriate term—is its unutterable meanness. If it be contended that "earth to earth" is a saying that should forbid despatch of so vital a substance, the reply would be that the objection is not to earth but to dirt, which Huxley defined as "matter in the wrong place." Sentiment and association assess the values of most earthly or earthy things, and these potent influences are strongly opposed to the use of any sort of crude earth to form the walls of the habitations of man. Stone, it is true, is a natural product of Mother Earth, but is it not a noble material, responding nobly to the art of the architect and the sculptor, its possibilities of beautiful form (to say nothing of pleasing texture) being fit to command the utmost wit and skill of man in the highest development of his genius?

Brick, again, though the patent of nobility be commonly denied it, is by no means to be regarded as a base material. Its colour and texture give it character. True, it is of the earth, earthy; but it has been "tried so as by fire," has, in fact, undergone many processes, will endure through centuries, gathering mellow beauty from time and weather and repays skill in the choice and the laying by being the chief essential of a really homelike exterior. It is earth with a difference—not common clay tipped out of a barrow and beaten into the semblance of a wall, nor earth pummelled into the form of "cobs," but earth selected, mixed, moulded, and cooked, with almost as much art and scrupulosity as a chef de cuisine would devote to a more delicate sort of confection.

But is there not considerable dignity about cooked earth?—bricks being far less dainty than any kind of biscuit-ware, including that wherewith the potter charms us, or than that terra-cotta ("cooked earth") that George Tinworth made so popular as an adornment for buildings; for while few could emulate his artistry in figures, there were many craftsmen who saw from his example how fine a means of decoration—with swags, urns, vases, panels, arabesques, or with bricks or blocks of varied tints and shapes—lay ready to their hand; and great, if not exactly glorious, was the revival of an art that the Romans had not despised. Then, when the fronts of public-houses broke out into garish colours on glossy or matt surfaces of terra-cotta ware, which became more and more shapely in form and true to size as the methods of mixing and firing were improved, there arose a strong prejudice against terra-cotta, which, however, in certain modified forms, now finds favour with many architects.

Terra-cotta, however, is not raw earth, but cooked earth, a natural product treated artificially, and bearing legibly on its face the stamp of man's handiwork. Similarly dignified is reinforced concrete, of which the

most ignorant beholder knows that it is eloquent of the scientific, ingenious, and resourceful mind of man, who, aided by the cunning of chemistry, has contrived out of mud the most enduring, the most plastic, the most versatile of building materials. But again this is mud with a difference so vast as to deride comparison with *pisé de terre*. It is hard to believe that this sleek and almost impalpable powder is (or was) clay that has come through a severe ordeal of fire and water, from which it has emerged, not merely chastened and transmogrified beyond recognition, but invested with new and priceless qualities, discovered and developed by the ingenious mind of man; and cement or cement concrete can be shaped to any pattern or use that man can conceive or execute. It is as if man were a magician; whereas his mastery over rammed earth is mere brute force.

And after all these noble achievements—*pisé de terre*!—a harking back to the adobe of the early Egyptians, without their facilities for sun-baking, and without their decency in covering up the rough work with decorated coatings. Is it not humiliating to the verge of acute distress to think that we have been driven to this extremity? For aught we know, the *pisé-de-terre* dwelling may be as weathertight and sanitary as its most ardent advocates proclaim it to be,

but, nevertheless, we cannot abide its over-raciness of the soil. It is an old tag of the connoisseur of cottages that "they should look as if they had grown out of the soil." *Pisé-de-terre* cottages will look like that. They ought to; for that and their undoubted cheapness are their sole merits that we need not rest on trust. But it cannot be too emphatically repeated that the great and insuperable objection to them is the very raw material of which their walls are made, with the implied degradation of various standards. This degradation need not be specified in detail. Those who know and feel it will not need the particulars, and those who do not would merely dispute the point. And our object is neither controversy nor personal condemnation. For while we are convinced that the use of so base a material is reactionary, and is of the nature of a desperate expedient, we recognise most cordially the admirable objects of those who are going to so much trouble and expense in what they believe to be the public interest. Those objects have been so eloquently advocated, and so excellently architectural skill has been devoted to their materialisation, that it seems rather ungratefully to protest, as we do most emphatically, that the policy of glorifying the mud wall is a huge mistake, socially as well as aesthetically.

J. F. M.

Notes and Comments

Government and the Building Industry.

ATTENTION is directed to the two resolutions (which we publish on a later page) passed by the Building Industries Consultative Board formed by the R.I.B.A., and representing not only the architects, but the employers and the operatives in the building industry. Of these resolutions, the first is to the effect that the stocks of bricks and other building material held by the Government in excess of actual requirement should be sold in the open market. The second is like unto it, urging that the building industry should now be completely freed from Government control and interference. These resolutions seem by no means premature, notwithstanding the ill results that are mentioned below as being directly consequent on relaxed restrictions; for the demolition of inhabited dwellings could hardly be prevented by restricting supplies of materials; and the obvious danger of uncontrolled supplies being cornered by capitalists and speculators could be averted by transferring control *de facto* but not *de jure* from the Government to a representative organisation appointed by the building industry itself. It seems clear that if there are not enough materials to meet all requirements some system of rationing is inevitable to avoid unfair distribution. It seems equally clear that the committee entrusted with distribution must have at its back the authority of Government, otherwise its decisions will be flouted and thwarted. Government should not hold the committee on a tight leash, but should be contented to keep a watchful eye on it. One of the most useful duties of this committee should be the weekly issue of a bulletin of material stocks, and a detailed account of their distribution and application.

The Picture-house and the Dwelling.

It was foreseen that the withdrawal of the war-time restrictions on building would, in some instances, give rise to abuse of the newly regained liberty. Several such cases have been already made public, and it is rather surprising that many more have not come to light. Two that have aroused much indignation—some of it promptly translated into action—relate to the demolition of dwellings to make room for picture-houses. In one instance—at Maidstone—it would seem that the public took alarm rather prematurely. They had not investigated the facts, which seem to be

that, although the Maidstone Picture Palace Company Ltd., have prepared a scheme involving the demolition of a dozen cottages, they have no intention of pulling them down until accommodation can be found for the tenants. There is apparently no means of bringing down the company to this fair promise, and it is therefore wise on the part of the Corporation to resist, as it did after passing the plans, that these should be forwarded to the Ministry of Health, with an expression of opinion that such buildings as picture-houses should not be erected until sufficient labour was available to deal with housing requirements. In these circumstances, this resolution was beyond question right and proper, and the Ministry of Health must be credited with sufficient intelligence to divine the intentions of the resolution, which clearly deals with special conditions, and must not be taken as favouring the general exclusion of all kinds of building except that of dwellings. It means nothing more than that the housing difficulty must not be increased in a single instance by pulling down dwellings to make room for picture-houses—an act that would be hideously immoral that no humane architect would credit his countenance. Control of building operations seems to be necessary still; but so long as it is exercised with wise and just discrimination, nobody worth considering will be one penny the worse for it.

Results of Relaxed Control.

Great excitement has been aroused in Whitechapel by the action of a small syndicate which, it is alleged, has given only seven days' notice to the tenants of a block of house property which is to be destroyed to make way for a picture-house. It is stated that a hundred and twenty-five persons are being displaced. These tenants are many sympathisers, who have expressed their indignation by pulling down the hoarding which had been erected round the condemned premises, and the police who interfered had a rough time of it, and had to be forced. They are a primitive folk down Whitechapel way, and the populace is apt to seize eagerly any opportunity for what is locally known, we have been told, as a "shemozzle." But how comes it that the present exhibition of primitive emotions has not been afforded them? How can it be possible, in a supposedly highly civilised country, for a syndicate, or for any individual, to purchase one's house over one's head, and to pull it down?

bout one's ears supposing one finds it impossible to comply with a week's notice? If this can be done in a community, and with the most impeccable legality, why is a Hass?" Rather it is much worse than that. It is more wicked than a Kiplingesque camel. Immediate action is necessary in all the laws relating to landlord and tenant. These laws are almost incredibly stupid, having been made by landlords for landlords, and giving rights which the tenant has being "to pay up and be a peasant." It was confidently expected that national action would enforce drastic reforms by putting the housing in a more equitable and less hazardous position; but national housing is still incipient, and while corporations are considering whether it is really worth while to build operations, cinema syndicates are getting on with demolition if not in building. If Dora and the Ministry of Health are really powerless in such matters, the Act to prevent the unnecessary demolition of buildings should be the first item on the order paper of Parliament next assemblies. While they are about lawgiving might insert a clause rendering impossible offering up to auction of a whole township, as in the strange case of the town of Shaftesbury, where the only incident has happened more than once. It is exceedingly difficult to say exactly why such transactions selling a town by auction scandalise one's sense of propriety, but the fact remains that they do; and they could be more easily understood if one could see the Abbey and St. Paul's Cathedral knocked down in one lot or separately." Of course the cases are not parallel, these buildings being statedly sacred; and a town is sacred by its human associations.

Devonshire House.

When there is a shortage of other exciting news the papers fall back on some variant of the "persistent rumour" that Devonshire House is for sale, or is sold. The statement made last Friday night was that this "still-Bermoothes" of a mansion had been sold for a few pounds sterling. "A good round sum," but at least worth but little more than half its pre-war value. One thought, in these hard times, who but an American syndicate could raise the purchase price or startle talk about pulling down so historical a building to make room for "a huge hotel"? But on Saturday morning it was announced, with an assumption of authority, that the purchasers were not an American syndicate but a firm of London builders, and that the price was not a cool million but £750,000. Still more amazing the price is the pity that London's continual building of huge hotels seems inseparable from a corresponding loss in treasurable town-houses. Devonshire House, it is believed, stands on the site of a mansion built by Inigo Jones. Kent designed the present building which was completed in 1737, or thereabouts, at a cost of about £20,000. Comparing that price with the price which the American syndicate was said to have offered, one was tempted to imagine for a moment that the pictures; but that cannot be; for the pictures, the Tintoretos, the Murillos, and the Rubens, to say nothing of the works of Rubens, Rembrandt, Vandyke, and Jacob Jordaens, make up a collection that is priceless. A library rich in treasures of literature, including John Philip Kemble's fine collection of old plays, is also too valuable a possession to be "thrown into the bargain." The enormous price is probably an effect of the difference in the respective currency values of 1737 and 1919, and of the more remarkable present-day increase in the value of town sites. Stratton Street and Berkeley Street, adjacent to Devonshire House, were laid out by John Evelyn, who writes, "I went to advise and give directions about building two streets in Berkeley Square. . . . I could not but deplore that sweet place (the most noble gardens, courts, and accommodated portico, etc., anywhere about town) should be so much straitened and turned into tenements." Evidently he did not relish this little essay in town-planning,

and his gentle shade will be sorely vexed when the rumour reaches him that tall tenements are the alternative to the colossal hotel at first apprehended. Devonshire House is almost the last of the London mansions, and its gracious presence would be sadly missed.

Furniture Design and Construction.

Furniture dealers are having the time of their lives. Although prices were never so high, buyers were never so plentiful. But the dealer has some cruel thorns in his rose-stuffed couch. His supplies hardly meet the extraordinarily brisk demand, and often he is inclined to shed tears to think of the colossal business he could do if only he could get the goods. Primarily it is the demobilised soldier, hastily married before going to the war, who is creating the scarcity by spending his gratuity on the domestic furnishings for which his bride had been hitherto dependent on the parents in whose charge he left her. Then, seeing the high prices that any old lumber would fetch, the established householders of the middle classes unloaded theirs, and were then sometimes in a position to buy the "genuine antiques" weeded out by the aristocracy from their "ancestral homes." Thus there is continuous movement all along the line, and there are hopeful signs of improved taste in the purchasers. One would like to hear, however, of greater activity in the manufacture of new furniture. Apparently the craftsman has been held up through the growing scarcity of suitable wood; but we have been able to record at least one notable instance in which an eminent firm of building contractors has been able to keep together an admirable staff (which otherwise must have been disbanded owing to the prohibition of building work) by employing it in the construction of furniture designed by architects. Of course architects should design the furniture of the more important houses that they plan, and they have always done so. It would seem that Inigo Jones was an adept in this subsidiary art, and what Kent, Chambers, and the brothers Adam could do or inspire in this kind is notorious. Heppelwhite, Chippendale, Sheraton, and other joiners and cabinet-makers, deserve all the kudos that their brilliant work excites, but for many of their most beautiful designs they are indebted to some eminent architect. This instance of the building firm setting its men to work on the making of furniture designed by architects is therefore in accordance with a venerable precedent, and it is to be trusted that this successful revival will inaugurate a new era of good taste and sound practice.

Substitute Building Materials.

Admittedly one of the most menacing of the many serious difficulties with which the country is at present struggling in its efforts to restore the prosperity of the nation, is the calamitous dearth of building materials. So much is at stake, and so urgent is the need of the materials for the erection of buildings of every class and kind, that the problem is hardly less momentous than that presented by the decreased output of coal. While the question directly affects the health and wealth of us all, it has a yet more pressing claim to the earnest consideration of those engaged in the building industry; and it is not surprising that in these circumstances architects and builders are earnestly seeking trustworthy information concerning the many substitutes for ordinary materials—both those that are of established reputation and those that have been newly introduced—which inventive enterprise has produced. With the object of giving skilled guidance to those who desire authentic particulars of such materials, the editors have commissioned a qualified architect to furnish critical reports from time to time, based on his personal investigations, into the merits of the more recent building substitutes, and these reports will duly appear in our columns. They should be of considerable assistance to all who are called upon to take part in the great rush of reconstruction that is now upon us.

Architectural Causerie

IN these momentous days it is usual to speak of reconstruction in a vague way, many hoping that things will right themselves without conscious effort on their part. Yet, something is required beyond the reiteration of the command, "Now is the time." Before any reformation of taste can be effected we must reorganise our ideas and ideals, not only on housing, which is the most pressing need, but on other subjects, such as those affecting the minor comforts of domestic life. One of the demands of the day is the necessity for simple and inexpensive furniture instead of the shoddy stools and tables which were formerly fobbed off on a careless public. As far as useless articles of convenience go, certain districts in London owe their prosperity to an abnormal demand for things cheap and showy, such commodities proving more costly in the long run. When Queen Victoria first ruled, it was said that the artisan enjoyed luxuries which previously had only been allowed to the governing classes; a statement somewhat wide of the truth, for at that time England was exceptionally rich in cottage furniture; the antique dealer had not risen to the practice of selling new lamps for old, and many of the chairs, tables, warming-pans, and wooden beds depicted by Morland during his rambles in the country were still treasured by the descendants of the original owners. Was not this the age of the revised type of Windsor chair? The heavy tables, some of which were merely planks on trestles, had been cleared out of the Squire's hall and parlour a century since, to the benefit of the sons of the fields. Village carpenters were still ministering to the needs of local communities, and jobbing builders in out-of-the-way hamlets gained an honest living by carrying out repairs in the great house, and sometimes designing and executing pieces of serviceable furniture.

By the year 1837 traditional design in furniture was undergoing a complete change in favour of what was politely termed "modern upholstery." The elegant fancies of Sheraton had given place to the somewhat ponderous "English Empire" taste, and this phase soon after favoured a pernicious form of Louis Quinze design. In this the origin of Early Victorian furniture can be seen; at first the circular table, the sofa table, the half-tester bedstead, as well as the monumental sideboard and the upright pianoforte exhibited the elemental lines of Percier et Fontaine, or Thomas Hope's refined inventions. Gradually the heavy pieces of mahogany, of walnut, and rosewood, were vulgarised by the addition of ill-conceived scrolls in supposed imitation of the glories of the age of Madame Pompadour, with a slight leavening of quasi-mediaeval carving to confuse the uninitiated. It was supposed that the greatest elegance had

been reached in modern upholstery when the splendid canopies and hangings of Victoria's early years were hung over the eighteenth-century architraves in imitation of the hanging cloth of gold, embroidered with heraldic badges, blue and red, decorated with silver lions; richly wrought tapestries and other pomps and vanities of the spacious days of Elizabeth. In addition to a passion for French inspiration, the votaries of Victorian fashion were disposed to a revival of the interior decoration of Tudor houses indicated in the coloured drawings by Joe Nash.

The Early Victorians were seeking for models to imitate; they were too closely connected to the eighteenth century to understand the refinements of their immediate ancestors; besides, the steam engine was at work. Writers dealing with the age of Elizabeth described the ornate style of the moment. They extolled the buffets and heavily carved tables, the beds of the Stuarts, the inlaid cabinets, the velvet and damask cushions, the folding screens covered with figured cloth, the needlework and other appurtenances. Everybody was anxious to emulate the Elizabethan and Jacobean manner, but enthusiasm was dangerous in its ineptitude.

By the year 1840 taste in furnishing was at a very low ebb. Eleven years later it almost ceased to exist, for waxen figures of favourite animals under domical glass shades stood on the rosewood tables of Buckingham Palace, and were for the houses of all classes. The lodging-houses of Brighton, Margate, and Cheltenham about this time were fitted with brackets, all the frippery of coarse marble chimney-pieces, Leghorn, spindle-shanked chairs from Oxford Street and Greek sofas, pseudo-Italian cornices and chiffoniers of all sorts. Able design with mirrored backs, and French eagles with stretched wings invaded the sanctity of the Regency home, and forced the furniture of Morgan and Sanders into the attic.

When George the Fourth was crowned things were not so depressing. The furnishing of the best of the London houses was simple, for many of the family treasures were untouched, in spite of the alluring complexities of the Regency. The middle-class houses in Russell Square, built by the architect of Decimus Burton, were distinctive in these furnishings. The drawing-room was fitted with a Turkey carpet. There was a pier glass over the fireplace, there were bell-ropes of coral, silk, steel fenders, plain chairs and tables, a Broadwood pianoforte with turned legs, a bookcase neatly sashed, and



MESSRS. MORGAN AND SANDERS' FURNITURE SHOW-ROOM, CATHERINE STREET, STRAND.

(From a print dated 1802.)



LOUIS XV. DOORWAY, PASSAGE DU DRAGON, PARIS.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

d hangings to the windows. Two or three pictures by Ford Wilson, and some good prints in gilt frames, together with several elegant miniatures, completed the setting. Drawings crowded with furniture were to follow the closing of the Great Exhibition. Dining-rooms of the Regency, as far as movables went, were severity itself; some had circular tables and others mahogany ones with centipede legs, while the table platforms were carried on two supports, one at each end like the bogey-wheel arrangements supporting a modern motor-carriage. Iron bedsteads had not quite come into vogue, but the four-poster and the half-tester, with hangings of patterned stuff, were favoured. Both being extremely high, the bedsteads were a necessity. Some people still favoured the iron bedsteads, designed with immense anchors, to celebrate the Emperor's triumph at Trafalgar. The collection of gilt-furniture, decorated with carved dolphins, crustacean detail and finny figures for Mr. Fish, formerly in the possession of the Admiralty, but now in the collection at South Kensington, is a specimen of the extreme fashion of the time.

* * * *

William Morris, the pioneer of the modern movement, was a man with the imagination of the poet; he had all the skill of the craftsman, and the intelligence of the trained designer, but he did not maintain the unequal fight against the steam-engine. Greenaway, in her Islington shop, caught the eighteenth-century spirit, perhaps from studying the old inhabitants of her town, possibly from the diminutive houses and shops of Covent Garden, and Canonbury, once favourite suburbs of the City of London. This talented lady did no little towards convincing architects like Eden Nesfield and Norman Shaw to the character of English domestic work. The Lodge at 10, Lowther Lodge, Knightsbridge, resulted. In the late

'eighties taste for antique furniture occupied the attention of all who could afford it. The years of bargains followed. Norman Shaw collected over a hundred grandfather clocks, the antique dealer came into prominence, and the countryside was searched for treasures. Soon the walls of the Royal Academy depicted the change in taste. Orchardson and Dendy Sadler took the late eighteenth-century settings for the backgrounds of their pictures, both artists being good historians, and a sort of Pickwickian revue ensued. From this we have not yet become emancipated, for many pictures of to-day are nothing more nor less than photographic copies of private collections of furniture with a figure or two added to give piquancy.

* * * *

What is true of English taste applies equally in France and America. We are all enjoying the products of our forbears, and prefer this form of laziness to busying ourselves creating new articles of use. In the meantime manufacturers of cheap furniture travesty the prevailing taste. To mitigate the evil various coteries are at work. Mr. Romney Green is devoting his life to the making of exquisite furniture, Mr. Gimson and Mr. Spooner are doing their best to emulate and extend the principles of old craftsmanship, and nearly every artist of note is preaching the doctrine of modern design. Many architects design furniture in these days and stamp it with their own personality, but cost prevents their owning specimens for their own enjoyment. It is a great battle this storming of the castle of Giant Vulgaritas; the villain has fortified himself to the best advantage, and has prevailed upon the multitude to rally to his banner. We architects can do much to undermine his reputation, and I for one will lose no opportunity to blow him

AERO.

The Architectural Significance of Stained Glass

By F. D. WARD, M.A.

ELLEY has it that "Life, like a dome of many-coloured glass, Stains the white radiance of eternity"; but it may occur, even to an enthusiastic partisan of the poet, that life is unjust to an art which at its best always charms, even at its worst evokes a cursory interest. An idea, by the quotation, though far from the poet's conception, comes into our minds in relation to stained glass; this, good, has usually a strong suggestion of life in it. The bright colours, bold outlines, and generous treatment of the parts sometimes distinctly convey an impression of life, bright and full, or, if the subject is sombre, you have the impression that existence on earth, though it is transitory, is at least good, and in its passing worthy of regret.

Stained glass windows may be with advantage used for depicting of historical scenes or the commemoration of events of historical interest there are numerous proofs. Even for portraiture oil paintings have a great pre-eminence, yet in glass figures are seen with greater ease, and do not require so much light. Even on a winter's day it is possible to see quite clearly the windows of the late seventeenth century that represent some of the Tudor and Stuart monarchs in the old London Church of St. Andrew Under-Wharfe.

There are five princes depicted, beginning with Edward VI. and ending with Charles II.; they are all in the line of their own time, and on this ground alone are they in juxtaposition. In the case of Edward VI., the figure wears no crown, but a modest cap. The diadem itself is on the ground. Elizabeth is in a wonderful dress of deep blue, with an open robe of gold brocade.

Of course, she has an ample starched ruff. James I. is a central figure; his red furred mantle covers the upper part of his arms, where it is turned back, showing a tunic and hose beneath. Charles I. has over his dress a purple cloak lined with ermine borders. He holds a book, perhaps the "Basilike." Magnificent rosettes adorn his shoes. Charles II., facing to the left, carries a sceptre, like some of the Stuart kings; he has a falling lace cravat, and wears a dark tunic and hose, showing the Garter, and a mantle visible at the shoulders. His portrait, like that of Charles I., seems to be faithful to what we know of the appearance of these

lower lights of the windows are filled with the royal coat of arms, their supporters' mottoes, and other insignia. The last on the right is Dutch William's, and his family motto, "Je maintiendrai" is noticeable, many times repeated on

it is difficult to see why some such scheme of a window is not be adaptable to our modern conditions: a sea-port's

town-hall might have a window of admirals; a garrison-town's of generals, and there should be no perplexity about insignia. But there are other uses of glass: the Jesse window, for example. Without any irreverence, and on a small scale, its principles might be adapted for commemorating families who have lost relatives in the war. Not every one has seen a Jesse window, but there is really some quality very fascinating in their design. The famous one at Dorchester, in Oxfordshire, has figures of the descendants of Jesse in its glass, but the window is ancillary to the sculpture, since other figures in stone stand on little brackets in the shafts of the window, and the stone-work forms the tree, springing from the recumbent figure of Jesse.

Another window of this kind, and dated 1631, is at Llanrhaiadr, in the Vale of Clwyd. There are no stone figures here, the whole design is in glass, and perhaps the work is better in consequence. Jesse is a large recumbent figure, from whom spring branches showing the generations of Our Lord's ancestry. The little half-figures of kings in oval medallions, with abundant brightly coloured foliage around them, are some of them most pleasing, and especially attractive is the small full-length of King David, with his harp in his hand.

Sometimes a quite simple design in glass is effective, if it is artistic. Thus at Hornchurch, Essex, in a smallish decorated window of three lights, on a general background of white diamond quarries adorned with little yellow patterns in outline, there are, in the central light, a Crucifixion where the figure is white, the cross yellow, and in the side-lights—on the left, in a dark circular border, the arms of Deincourt, on the right another coat of the same, now composed of odd and meaningless fragments. The loin-cloth of the Christ is dark. A border of blue foliage, and, on a white ground, yellow faces of lions, runs round each light. There is a picture of Edward the Confessor in the tracery. This is work of the fourteenth century, and though it has been rather disturbed since then, it is still effective and pleasing. Such comparatively inexpensive memorials might still be used with advantage if only taste guided the work.

Stained glass may indeed be reduced to yet simpler terms than this: mere shields of arms in roundels, if there are enough of them, will illuminate a window very beautifully. In the quaint Essex church of North Ockenden the west window contains embedded in what is evidently much more modern glass, some six old coats, including those of England, France, Bohun, Warrene, Beauchamp, and Poyntz. The red in some of these is of a glorious deep colour, and again the yellow, where it occurs, has a quality like gold, partly due perhaps to age. It is chiefly because we are more accustomed

to scenes in windows, to groups of figures, that old glass like that which has been described receives so little attention.

In all stained glass the treatment of the subject is quite as important as the subject itself. Colours that harmonise, glaring obtrusion of one tint avoided, lines that do not clash or seem out of place, careful proportion of the parts, good glass with the colour well burnt into it, these things are essential.

Single figures on brackets are sometimes excellent. The windows at West Wickham, in Kent, of the fifteenth century, are relevant examples. In the north aisle there is a picture of St. Christopher with the child Jesus. The saint holds a great yellow staff. Over his brown-red dress he wears a white cloak with yellow borders and cuffs. His head-gear is blue and puce. The Child is in white with yellow hems. His hair is of an orange-yellow tint; the halo of a greenish blue. In the left hand is an orb. The river is white, with yellow fish; the river banks are green, and red trees grow on them. All this composition is on a heavy yellow bracket without any kind of stem or pedestal. The surrounding glass consists simply of quarries

containing the Sacred monogram, and is probably modern. The other lights are similar in general treatment. The companion light to the picture of St. Christopher contains figure of St. Catherine, having a red halo, holding a yellow book, treading on a prostrate king. She wears a puce white underdress, a white mantle with yellow borders. The wheel in the background is yellow. In the east window of the aisle, the southernmost light has a magnificent figure of Virgin Mary, crowned, in a red robe, a white mantle, and a dark-blue halo. The child Jesus is in purple, the hair orange in colour. In this, as in one or two others of the series, figures stand on tile pavements of green squares, alternating dark and a little lighter; beneath these are the usual brackets.

This is the last kind of windows it is intended to consider here; in this again exists a fairly simple type useful for memorials; and without any aspersion on designs where the entire window is filled, it was thought that it might be useful to treat of the simpler sorts which are not so generally known and have yet power to please our æsthetic sense, either in ancient originals or if modernly adapted.

Georgian Houses in Ireland*

WE in Ireland have many grievances, but lack of good eighteenth-century architecture is not one of them; indeed, in Dublin alone there is a wealth of material, to absorb the detail of which is a study of years.

When the Georgian Society was formed some ten years ago 90 per cent. of the existing work was unknown, save to a small and select few, most of whom were not architects. Since that time, however, the rate of percentage might be reversed, and the greater part of the work, worthy of record, has been dealt with in the Georgian Society's works and the companion volume, "Georgian Mansions in Ireland." It is not claimed that no scope for the explorer is left, but it is unlikely that any work of importance remains to be discovered. Those who delight in the fine arrangement of dates and in hair-splitting can subdivide the Irish Georgian work into many periods. For general purposes, however, one can take three main divisions, which are as follows:

First—The rather coarse type of work following directly on Jacobean lines, and as a natural growth from that style.

Second—The Rococo period, in which wood plays a much smaller part than in the first, with a consequent freedom, often indeed resulting in riot of design.

Third—What is usually known as the Adam period, from the fact that the famous brothers were pioneers and leaders in the refinements, sense of scale, and close study of detail, which are its leading characteristics. I especially emphasise the sense of scale, and shall deal with this point later. There was, as is to be expected, a large amount of overlapping, especially noticeable in plaster work. There was also a considerable amount of redecorating; and numerous cases occur where the older plaster work has been cut out and rooms treated in the Adam manner.

The library of Leinster House is one of the best examples of this, but on account of its unusually large size the result is not very happy. The scale of the detail is too small for the size of the room.

It must be clearly understood that this division of Georgian work into three phases is a purely arbitrary one, but a long experience in the study of the period has shown it to be convenient, and it may be useful to summarise briefly the principal characteristics of these divisions.

First Phase—Circa 1690-1720.

The interior is usually stone or brick, either local or imported, the principal elevation is perfectly symmetrical, and a bold cornice is often an outstanding and pleasant feature. The roof is usually hipped all round, and runs down to a deep overhang at the eaves. Windows are marked by their height and thick glazing bars. The plan is arranged so that the chimney-stacks balance exactly on the principal elevation, and in the more important examples one of the orders is generally introduced to emphasise the main entrance.

In the interiors wood is the important feature. In the earlier examples one frequently gets panelling running the complete height of the room, with a cornice of the same material. Oak is infrequently found, the timber for most of this period being native pine which was painted. Doors often have heavy architraves with Greek corners, with a frieze and pediment over them. Mantelpieces are designed to correspond with the doors, and are nearly always of wood. The staircase is often of the

well type, and runs right up the house, having wide handrails which are deeply ramped at the angles.

The plaster decorations in these houses are confined principally to the ceilings. The design is nearly always of a simple rather formal pattern, often following the plan of the room or being governed by reasons of a constructional nature, such as a break in the ceiling formed by a beam carrying the joists. The plaster at this time is always in heavy relief and modelled *in situ*.

The grates are rather a difficult matter on which to get at exact information, as in the large majority of cases the earlier types have worn out and been replaced by later patterns. However, the writer has come to the conclusion that those in the larger rooms during the early part of the century were nearly always of the basket type, standing in an open hearth. In the smaller rooms they were of similar material, but set solidly into the fireplace opening. Dogs are found occasionally even as late as the Adam period, in conjunction with an open hearth. There is no doubt that they had ceased to be used generally by the beginning of the eighteenth century.

Second Phase—Circa 1720-1770.

The same general features are found in the interiors as in the earlier examples, with the exception of the fact that overhanging eaves have practically disappeared, and the roof runs behind a parapet resting on a cornice. The details of architecture, etc., is less coarse, and the great height of windows in comparison to their width, is less marked.

Plans show the same general features, but there is a general tendency to place the staircase in the front or main hall instead of in the back, as in the earlier type. The main staircase now only serves the first floor, and access to the upper floor rooms is gained by one of minor importance.

With the improvement in the manufacture of wall-paper, joinery has become far less important, and a fully paneled room is rare. Oak is practically never found, but mahogany is met with more or less commonly, and is used as wainscoting about three feet in height in principal rooms and staircases.

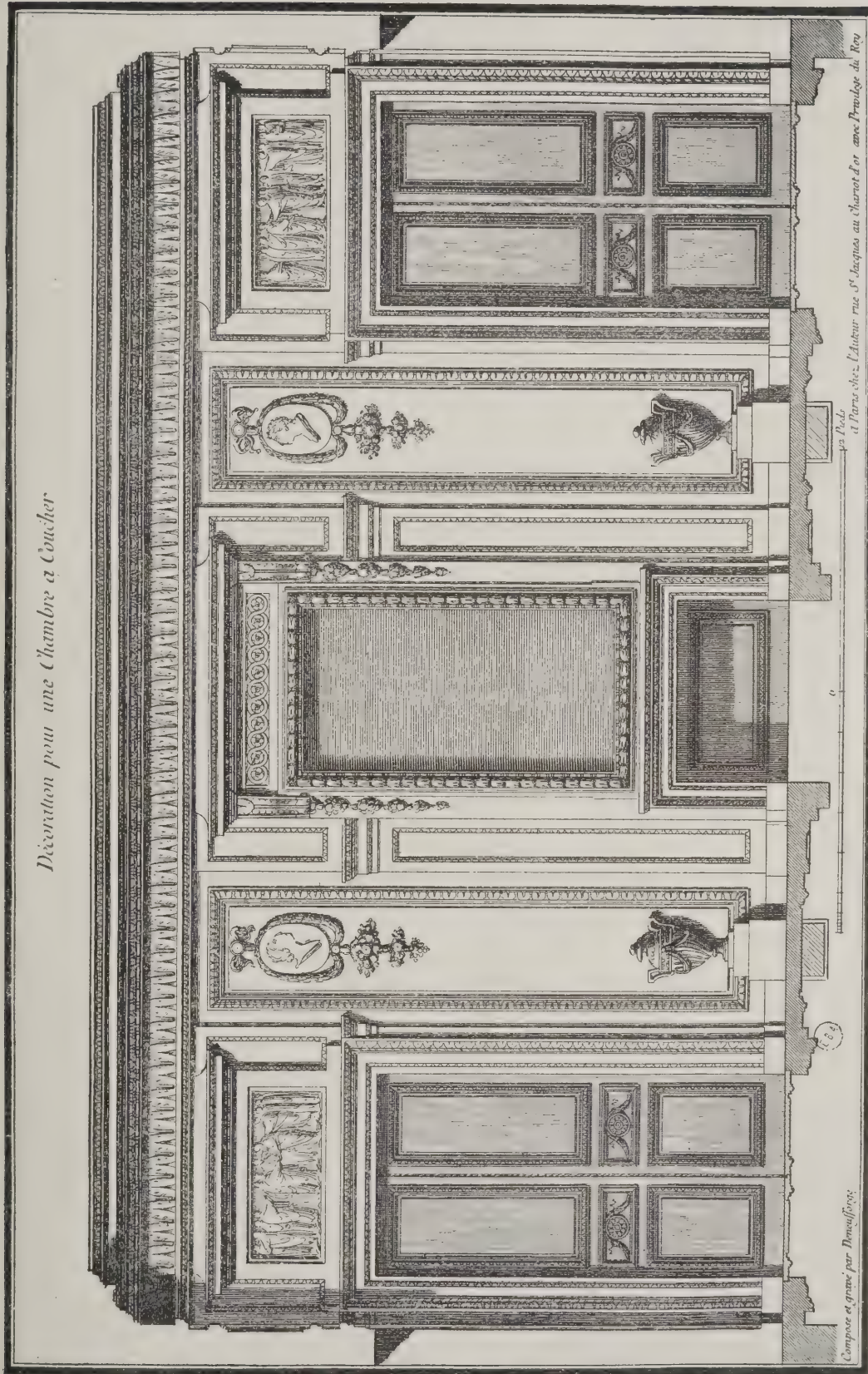
Plaster work is given much more prominence than formerly. Ceilings, while still following structural lines as the motive, are more fully treated. Conventional floral patterns are common, and in much lower relief than was the case earlier. Plaster panels on walls are general, and in the main follow the general lines of the older wooden ones. They are enriched, and floral designs, masonic emblems, figures, and groups occur very often. Grates by this time had developed into a fixed type, the larger sort generally having a solid elevation with a brass surround, with a hob on either side of the bars. These are familiar to most people, and are still had fairly easily in most of the dealers' shops. Large numbers of country houses, and houses in the best residential quarters of Dublin contain grates of this date. The disuse of the basket grate was not so much a matter of fashion as of the change from fuel; as during the middle of the century there was a marked increase in the use of coal, which rendered the large basket grate, designed primarily for consuming wood and coal, extravagant and unsuitable.

Third Phase—Circa 1770-1810.

In order to understand any sudden change in style, it is essential to study closely the economic and social conditions of the time. This fact is not sufficiently understood, and

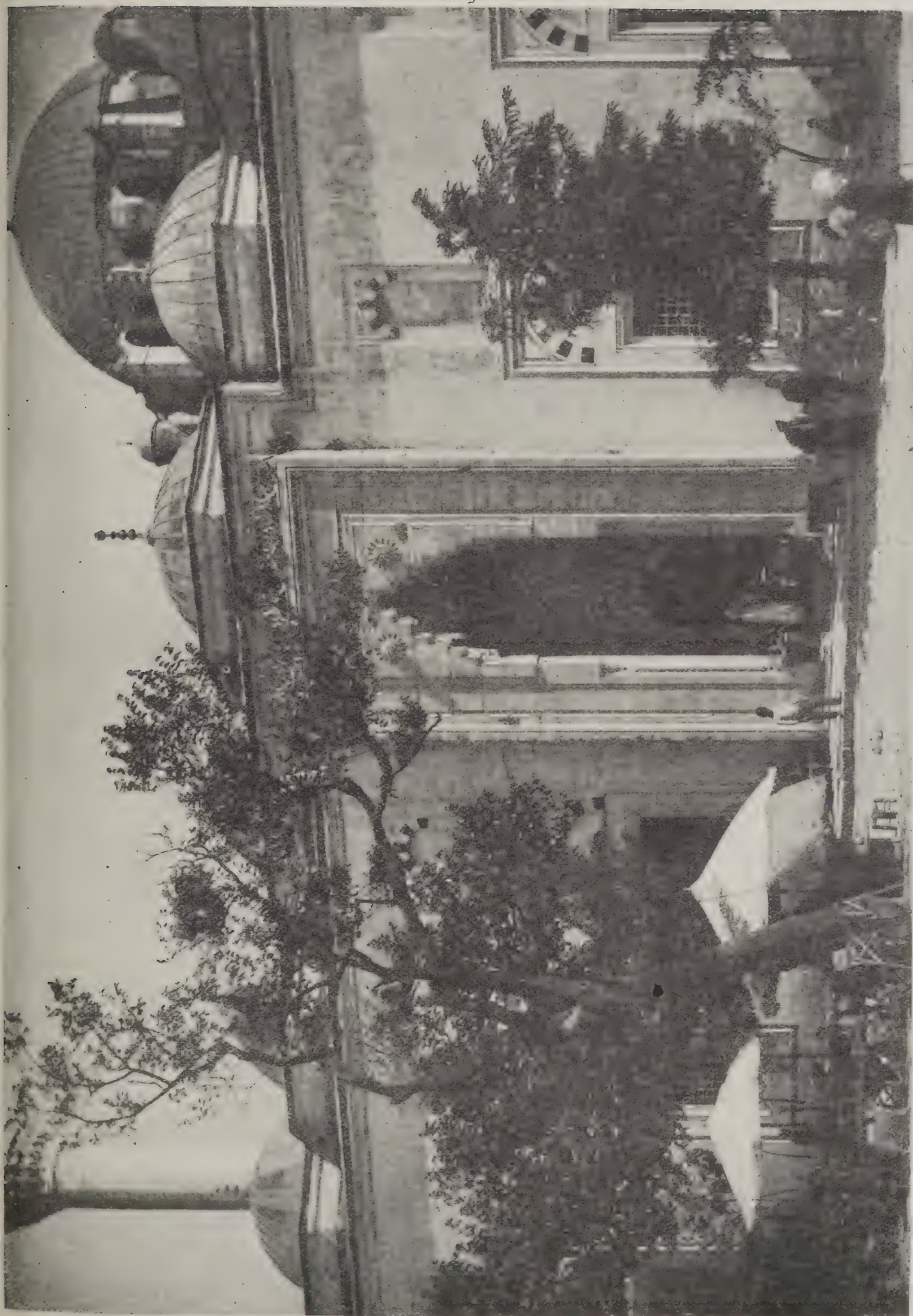
*Extracts from an article contributed to the Diamond Jubilee number of the "Irish Builder," by Captain P. L. Dickinson, M.R.I.A.I., joint-author of "Georgian Mansions in Ireland," and formerly secretary of the Georgian Society.

Décoration pour une Chambre à Coucher



LOUIS SEIZE DECORATIONS IN A BEDROOM.

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MOSQUE OF BAYEZID, CONSTANTINOPLE; DETAIL OF ENTRANCE TO FORECOURT.

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deal solely with the externals of the Adam Brothers' of design, and do not consider the causes that influenced Every student knows what the direct architectural influence on the brothers was, and there is not space to discuss interesting but well-worn subject in a paper of this sort. It, however, be realised that a tremendous commercial movement took place all through the eighteenth century, towards the end there came a prosperity in the merchant class that was without precedent. Previous to this, the big objects had concentrated principally on the mansions of the rich and more wealthy landed gentry, but the increased demand for living created a demand for the modest class of wherein at the same time a high architectural development was demanded. The manner of Jones, Wren, and their successors was obviously unsuitable; and the pupils of Kent clearly not design in his style for buildings a tenth of the size of those which he had dealt with. The Adam Brothers and their numerous followers, with their close and refined knowledge of classic ornament, filled the gap.

We consider the main features in the same order as in the two phases. The internal treatment is often of stucco, with great refinement of detail. Windows are larger, but with lighter glazing bars; while delicate iron balconies, porches, are very much introduced. The oval and half-oval is used in plan, which is a distinctive feature of the last part of the century, and is almost never found in pre-Adam work.

The joinery plays a still less important part, and is only used in low wainscoting, and the ordinary features, such as architraves, etc. The wooden baluster is often replaced by cast-iron surmounted by light mahogany handrails. In the better work the joinery of the principal rooms is of mahogany, and in the less important examples of pine. The most distinctive feature is the plaster work. The design is always of the "Radial" type, as opposed to the older method of arranging the plan in accordance with the main lines of the space to be filled.

Most of the Adam plaster work oval plaques and medallions containing figures and groups are used with a most decorative effect. A great deal of the work at this time is a method never used in the early part of the century, is a mistake to suppose that modelling *in situ* was not also used. Much, no doubt, depended on the cost and the ideas of the designer, and of the plasterer who executed the work.

The grates are much the same as those of the middle of the century, but, as is to be expected, they exhibit mere refinement of detail, and the incised patterns on the brass, or occasionally iron, generally show great skill and refinement. Mantelpieces are usually of wood, with relief in "mastic," the design is carried out in pewter or wood. Inlaid marble is common. The grate is often a circle or an oval, the top and hobs being about the centre on elevation.

There is still a general but mistaken idea that the eighteenth-

century plasterers were Italians. There were undoubtedly a few workmen of that nationality in Dublin in the early part of the century, but the Georgian Society researches have brought to light the fact that 90 per cent. of this work was by Irish plasterers.

The Plates Described

Louis XV. Doorway, Passage du Dragon, Paris.

FRENCH treatment of doorways shows always a native distinction that is *ipso facto* full of charm. Always there is an air of invitation and a promise of elegant entertainment, and the doorway shown on page 319 is in no respect exceptional. It is intensely characteristic of its period and of the French genius in design.

Louis Seize Bedroom Decorations.

The plate on page 323 is an epitome of the decorative details of its period, which, copious as they are, show no confusion, but are disposed with great skill, rendering this example a valuable study in decorative composition.

Mosque of Bayezid II., Constantinople.

This is the earliest royal mosque now in existence, being built in 1497-1515. It is noted for its small scale and the simplification of its details. The forecourt and mosque form a double square, measuring 268 ft. by 135 ft. (See page 325.)

"The Windsor," City of Bradford.

The Bradford Central Baths Hall, with its new annexe, will for the future be known as "The Windsor." The buildings occupy a large site, having frontages to Morley Street, Great Horton Road, and Mann Lane. The King's Hall, in the old portion of the premises, contains a large swimming pond, which is emptied in winter and covered with a spring floor. Around the hall are balconies and galleries, and immediately adjoining it are complete and up-to-date medicated, electric, Turkish, Russian and slipper baths. The new annexe, which is illustrated by plans and photographs, comprises a hall to be known as the Queen's Hall, which has accommodation for six hundred persons. There are a fully equipped stage and artists' retiring rooms. The roofs are constructed of steel and covered with Burlington blue slates. The work has been carried out to designs by, and under the supervision of, the city architect, Mr. W. Williamson, F.R.I.B.A. (See pages 330 and 331.)

Municipal Buildings, Bideford.

In small towns like Bideford, the municipal buildings are usually so multifarious in their uses as to defy any serious attempt at "expression of purpose." Mr. Alfred J. Dunn, however, has succeeded in producing a design that is fairly homogeneous, although the choice of a Gothic mode does not make for distinction. (See page 335.)



"THE WINDSOR," BRADFORD: VIEW FROM QUEEN'S HALL TO KING'S HALL.

W. WILLIAMSON, F.R.I.B.A., CITY ARCHITECT OF BRADFORD.

Oil Fuel for Domestic Cookery

THE problem presented by the increasing cost of cooking the daily food has been one of cumulative difficulty to the housewife throughout the war, nor has the situation during the period following the cessation of hostilities tended in any way to lessen her anxiety on this head.

Coal prices continue to soar to such heights as make the charge on the household exchequer a very serious one to all but the wealthy classes, and, in addition to this, the public is faced with what we are frankly warned is likely to be a coal famine during the coming winter.

This condition of affairs is aggravated in the majority of cases by the fact that the housewife has no other means of using coal except in the old-fashioned large grate of the often wasteful kitchen range.

Of the two other methods of cooking now in use among the middle classes, namely, by means of gas and electricity, the former, though convenient and efficient to the last degree, is directly dependent on coal, and, being so, its choice—on the ground of economy—is a matter which must be carefully considered. As regards electricity, this can only be satisfactorily employed in highly specialised kitchens; and until we in England follow the lead which America has set us in this connection its adoption for small establishments may be ruled out.

These considerations have induced the writer to place at the disposal of the editors of this journal her experience of an alternative fuel for domestic cooking in the shape of oil, which, although in general use for this purpose in America, Egypt, and our colonies, is in this country almost unknown.

It is desirable at the outset to state that considerable prejudice has to be overcome in recommending any form of oil stove for kitchen use on account of the persistent charge made—by those who have no knowledge of the subject—that food so cooked “must taste and smell of oil.” As a matter of fact, there is no truth whatever in the statement.

The type of oil stove which has been found by the author of this article to serve every possible domestic requirement—and, as will be shown later, to meet successfully such needs as are demanded for hospital cookery on a very large scale—can be best studied by reference to the accompanying illustration. This stove may consist of one, two, three, or even four burners, and is complete when furnished with a box oven. Such a stove requires no flue, and no foundation other than a sheet of metal, and may stand in the centre of the kitchen. Should it be more convenient, however, to place it near the wall, and should that wall happen to possess a wood dado, sheet metal or asbestos sheeting should be tacked to the woodwork above the level of the lamps, and continued over the floor space occupied by the stove.

The oil used is ordinary paraffin, the present price of which is about eighteenpence a gallon. For a small household of two or three persons, the consumption of oil worked out at about four ounces per hour for each lamp used with a medium flame. The heat produced gave a temperature of 400 deg. Fahr. in the oven, and was sufficient, not only for the cooking of all meals, but for heating bath water as well as water for washing small articles of clothing. With regard to the two latter requirements, it should be explained that in small flats in Cairo there are generally no facilities for either.

In considering the information given in the previous paragraph as to consumption of oil in relation to the size of the household—mentioned as consisting of two or three persons—it may be added that it sufficed for the extra cooking occasioned by modest dinner parties, as well as the entertainment of friends who stayed for meals.

This type of stove possesses the great advantage of portability. Being in no way attached to its surroundings, it can be removed almost as easily as a tray of tea things. Moreover, if it is desired to take the stove to the week-end cottage, all that need be done is to unscrew the legs and pack the parts in a moderate-sized box.

Another good point about it is its silence in burning. It consumes oil as noiselessly as a reading lamp, thus contrasting most favourably with stoves that, fed with other fuel, emit a disconcerting roar. The flame is blue, owing to the admixture of oxygen from the air effected by the construction of the lamp, and its control is very simple. A daily wipe-down with a slightly oily rag, and the removal of the charred edges of the wicks will keep the stove clean and fit for use. This operation takes but a few minutes, and if old gloves are worn the process need not be repugnant even to the most fastidious.

If the matter be viewed from the cost aspect, it will be found that oil has much in its favour. Its use provides an instant check on the household expenses, because the glass reservoir

which contains the daily supply shows at a glance the consumption. Users of gas for cooking can only conjure a degree of their extravagance when the company's bill at the end of the month, and even then it is next to impossible to estimate the amount, for the reason that the charge for house illumination.

There should be no misapprehension as to the nature of the work which can be accomplished by the use of a range made of oil stove. There is in reality no limit to the number and variety of dishes which can be prepared by its means, which it is clear that it is in no sense a makeshift or makeshift and-ready expedient. It is, on the contrary, an alternative which may be taken quite seriously, as may be inferred from the fact that, with its aid, one can bake bread and cakes, joints or poultry, grill steaks, toast bread, boil, stew, and short, perform the hundred-and-one culinary feats possible on a modern cooking range.

With reference to the adoption of oil cookery for domestic use, mention may be made of its employment on a very large scale in the Red Cross kitchens in Egypt and Palestine. In the Cairo section alone there were nine kitchens, each with two three-burner stoves, which yielded altogether 124,000 rations or dishes per month, ranging from simple solid fare to the most delicate preparations for very sick patients.

JULIA CHATTERTON,

[This article is printed without prejudice to the use of gas or electrical cooking apparatus; for the oil stove has no such events, an obvious mission in places where neither gas nor current is available. Such places are not rare, even in England. In certain outlying districts, oil is used as a street illumination, and during the holidays it was not difficult to find examples. In Sussex Downs, a church lighted with paraffin lamps, the moment when the output of coal has been reduced, new sources of oil supply are being discovered, Mrs. Chatterton's article is decidedly opportune.—EDS. A.J.]

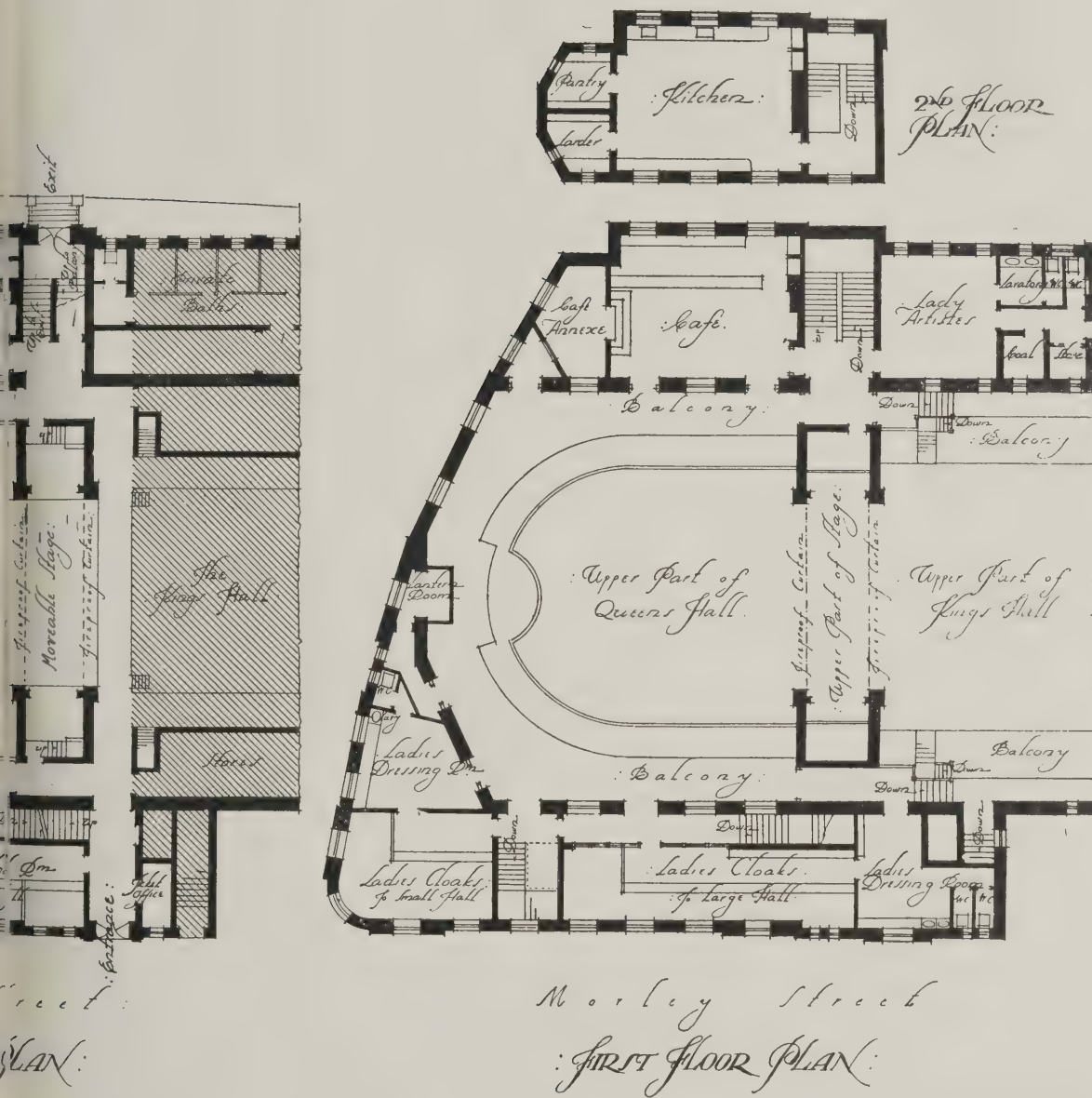


Photo: F. Chatterton, F.R.

OIL STOVE COOKERY.

Showing the three-lamp type of oil stove used daily for four years by the writer in the kitchen of her flat at Cairo.

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Analysis of Pre-War and Post-War Prices for Building Work*

By LIEUT.-COL. T. E. COLEMAN, R.E. SERVICES.

(Continued from No. 1287, page 307.)

COMPARISON of pre-war and post-war contract rates, as paid for materials ordered on a general schedule of prices now given. In August, 1914, a rate of 5 per cent. below the pre-war prices for all trades was paid. In February, 1919, the accepted contract rates for the materials required in the different trades in a South of London district were as follows:

Materials Only.

	Percentage above schedule prices.
Concrete	75
Bricks	75
Plaster, etc.	50
Paint	50
Roofing	75
Timber	200
Iron and steel	200
Brass and Smith	200
Other	50
Other	100
Other, etc.	100

Contract rates represent a net increase varying from 55 per cent. on paving materials, etc., to 205 per cent. on carpenters' and smiths' materials.

London Day-work Rates.

Average prices now charged by London builders for all work executed by hand also afford a further indication of the serious increase which has taken place in the cost of building. These rates include the use of ordinary plant, water, workmen's compensation, health insurance, and unemployment charges, establishment expenses, and

	Rate per hour.
Labourer	1s. 6½d. to 1s. 7½d.
Plumber	1s. 7d. to 1s. 8d.
Painter	1s. 7d. to 1s. 8d.
Or Fixer for re-inforcing concrete	1s. 8d. to 1s. 9d.
Plumber	2s. 0d. to 2s. 1d.
Mason	2s. 0d. to 2s. 1d.
Or Tiler	2s. 0d. to 2s. 1d.
Or Joiner	2s. 0d. to 2s. 1d.
Electrician, with use of machinery and power	3s. 6d. to 3s. 9d.
Electrician, including fuel, etc.	1s. 11d. to 2s. 0d.
Plumber, including fuel, etc.	2s. 0d. to 2s. 3d.
Plumber, with mate	3s. 6d. to 3s. 10d.
Plumber, including fuel, for fire	2s. 0d. to 2s. 1d.
Plumber, including fuel, for fire with mate	2s. 2d. to 2s. 4d.
Plumber, including use of mate	3s. 7d. to 3s. 11d.
Plumber, including use of mate	2s. 1d. to 2s. 3d.

It is necessary to work overtime, one and a quarter time, one and a half time, and double time are respectively in accordance with the recognised

use and waste of timber in excavation, etc., and also hire of exceptional machinery are charged for as shown on the day-work rates.

Increased Cost of Building.

The cost of ordinary buildings consists of approximately 40 per cent. for labour and 60 per cent. for materials. The increase in the cost of building in June, 1919, as compared with August, 1914, may be approximately estimated at 137 per cent. for labour and 109 per cent. for materials, or a total of 120 per cent. for all building materials. As already mentioned, the cost has still further increased since that time, so that at the present time (September,

1919) the average cost of building is now about 125 per cent. above pre-war prices.

To builders and building owners it becomes a matter of considerable importance to ascertain how much of this increased cost is permanent, and how much is of a temporary nature caused by artificial and unhealthy war conditions.

It has been shown that the present high cost of building is due to the increased prices for building materials, the low efficiency of labour under exceptional conditions, and the considerably increased rates of wages now paid.

In the ordinary course of events, some reduction in the current prices of materials may be anticipated so soon as the ordinary conditions of supply and demand are established, but it is practically certain that no return to anything like pre-war prices will occur, unless greatly diminished manufacturing and transport costs are obtained.

The present estimated reduced labour output of 20 per cent., due to exceptional war influences, should gradually diminish and eventually disappear under normal trade surroundings.

The increase in rates of wages for the building trades varies from 83 to 122 per cent., or an average of 91 per cent. since August, 1914, to the present time. In November, 1918, the average increased cost of food was 133 per cent. above pre-war level. During the armistice period food prices decreased about 25 per cent., so that in June, 1919, the average cost of food was approximately 104 per cent. more than in August, 1914. Under these circumstances, increased labour rates are at present absorbed by the higher cost of living, and the workman has practically received no real financial benefit. The gradual return to ordinary conditions will effect a reduction in food prices, but it seems unlikely that any corresponding reduction of wages will then take place, so that the workmen will eventually secure a substantial monetary advantage.

A permanent increase in the wages of building operatives, as compared with pre-war rates must therefore be anticipated, and any reduction in the labour values of building work can only be obtained by an increased efficiency of the workmen themselves, the development and general adoption of labour-saving machinery and plant, together with the improved organisation of labour and scientific management of work generally.

In connection with the Government scheme for industrial housing, it has been assumed that the cost of the building will become "normal" in about seven years from the date of peace being signed, and that the "new normal" for building prices generally will then be approximately 30 per cent. less than the average prices ruling in June, 1919.

If these anticipations are realised—and taking the end of the war time prices at 120 per cent. above the old normal pre-war rates—the result will be that, when the cost of building has become more or less stabilised in June, 1926, the "new normal" building prices of that date will average about 84 per cent. above the "old normal" pre-war rates.

After a careful survey and consideration of the world conditions, it seems probable—unless industrial madness supervenes—that the particular factor of war-time inefficiency of labour which has arisen during the war period, and which has helped to produce the high rates now prevailing, will generally disappear during the next four years. As a consequence, by that time building prices should be at least 20 per cent. lower than war-time rates, or, broadly speaking, about 100 per cent. above pre-war prices. Further reductions should be obtained from time to time by a general decrease in the cost of materials as soon as normal conditions are established. In the ordinary course of events, therefore, it is probable that a further general reduction of 15 per cent. will be effected within the next seven years, so that in 1926 the "new normal" building prices should average about 85 per cent. above the pre-war rates of 1914.

Reduction of Building Costs.

Any further reductions can only be effected by improved manufacturing and working methods, and, more particularly, by a different attitude being adopted by the workman towards his work. It seems to be frequently forgotten by many trade union leaders that labour has its duties and responsibilities as well as its privileges. Whilst substantial increases in wages and reductions in the hours of working are sought for and obtained, no effort appears to be made by the workmen themselves to secure increased efficiency or output. In fact, the destructive policy of increased wages, and decreased working hours, combined with the performance of the least possible amount of work, seems to be deliberately adopted in many cases, rather than a constructive policy of better pay and working conditions, combined with concentrated working effort and labour efficiency.

In the United States high rates of wages are paid, but, on the other hand, a much higher percentage of labour efficiency is obtained. If this country is to maintain its industrial position, it is necessary that the workman should be educated to realise the duty owing to himself and the community, and that he should cultivate an ambition to give fair and honest work in return for good wages, short hours, and better conditions of living.

Improved Building Methods.

Generally the ordinary operations of building have remained more or less stationary, although within the last fifty years important new departures have been made, more particularly in the execution of engineering works. By a judicious breaking away from existing stereotyped methods there would seem to be many directions in which economies and improvements in building work might be effected in this country.

The cost of labour is one of the most important items of expenditure in building work, and if this can be reduced or economised by skilled management, improved methods, and the introduction of less irksome labour conditions, the ultimate cost of building will be correspondingly reduced.

(To be continued.)

Ministry of Health Guidance in Municipal Housing Scheme

LOCAL authorities, under Section I. of the Housing, Town-planning, etc., Act, 1919, are required to submit an outline scheme for the housing of the working classes to the Ministry of Health before October 31. To assist local authorities in formulating and submitting these schemes the Ministry have just issued a form of survey of housing needs, and a Circular (No. 8) which calls attention to the duties and powers imposed upon local authorities under the Act.

The form of survey for housing needs, which, when completed, will be regarded as the outline scheme, is divided into six sections as follows: (1) Prevailing conditions affecting shortage of houses, population, existing house accommodation, overcrowding, and the various rents of working class houses; (2) estimate of housing needs during the next three years; (3) areas which are being, or have been dealt with as unhealthy areas under Part I. or Part II. of the Act of 1890; (4) insanitary houses other than houses in unhealthy areas; (5) particulars of map of district, to be submitted with the completed form; and (6) proposals of the local authority for the provision of new houses under Section I. of the Act of 1919.

The following are extracts from the Circular, issued with the form of survey:—

The first of the surveys for the purposes of Section I. must be undertaken forthwith. The local authority will have to ascertain the need for new houses in their district, and the approximate number of houses to be built by agencies other than the local authority. The local authority will then be in a position to estimate the number of houses to be built under their own scheme under Section I. of the Act.

For the calculation of the number of new houses required, the most important data will be figures as to overcrowding and the growth of population. With regard to overcrowding it would hardly be practicable to undertake a house-to-house census of the working-class houses in the district in the time available, and it will be necessary to rely mainly on information already in the possession of the medical officer of health. This may be supplemented by information from the local food control committee, whose records would show the number of families and persons occupying each dwelling house. The local advisory committees, local war pension committees, school care committees, and charitable organisations, such as guilds of help, might also be willing to assist the local authority in compiling the desired information, both as regards existing overcrowding and as regards the shortage of houses generally. Figures relating to population may be obtained from the published reports of the Registrar-General, and the records of the local food control committee and the local war pensions committee. Inquiries may also be addressed to the larger employers of labour who may be able to supply information as to the number of employees who desire to obtain houses in the district, or as to the difficulty of obtaining labour in consequence of the shortage of houses. The local advisory committees might also be able to assist in this way. It will further be necessary to take into account any anticipated increase in the population in consequence of industrial development, or any anticipated decrease consequent upon the closing down of munition works or other tem-

porary industries which have been called into being by the war. It is hoped that every effort will be made to obtain an accurate estimate of the housing needs of the area, but it is recognised that the figures given may require to be amended when more exact information becomes available.

It will be incumbent on the local authority, in preparing their scheme under Section I., to take into account any proposals by other bodies and persons to provide housing accommodation. Among such bodies will be public utility societies and housing trusts, to whom financial assistance may be given from the Exchequer, subject to regulations made by the Minister of Health. A circular letter will shortly be sent to the local authorities explaining the terms (set out in the Act) on which the Government will be prepared to assist these societies and trusts, and the assistance which may be given by local authorities to public utility societies under Section 18 of the Act. In certain cases also large manufacturing or business firms may be building houses for their employees.

Section VI. of the Form of Survey, when duly completed, will be regarded as the Scheme under Section I. of the Act. It is not intended that this should be a detailed scheme with plans and estimates. It will be an outline or programme of the local authority's proposals, and will specify in approximate terms the number and types of the houses to be provided, the acreage of the land to be acquired, the localities in which building is to be undertaken, the number of houses to the acre, and the time within which the scheme, or any part of it, is to be carried into effect. Estimates of cost and of the rents to be charged will not be included at this stage, but will be submitted to the Minister before the scheme is finally approved.

The following are the time limits fixed under the Act and regulations in the case of Part III. schemes:—

Before October 31, 1919. Outline scheme to be submitted, in the Form of Survey, under Section I. of the new Act.

Before July 31, 1920. Reasonable progress to have been made, to the satisfaction of the Minister, with the carrying out of the scheme.

Before July 31, 1922, or such later date as the Minister may allow. The scheme to have been carried into effect (i.e., by the completion of all the houses to be provided under the scheme).

The Act provides that, in addition to, or in lieu of, building houses themselves the local authorities may, with the consent of the Minister, contract for the purchase or lease of houses suitable for the working classes, whether built at the date of the contract or intended to be built thereafter. The plans and details of the building scheme will require the approval of the Minister in the same way as if the houses were built by the local authorities themselves. Apart from the provision of new houses, the housing accommodation of the district may be increased by the alteration and repair of existing houses. The Act gives the local authority the power to acquire existing houses and to alter, enlarge, repair, or improve them so as to render them in all respects fit for habitation as houses for the working classes.

A circular letter was issued on July 29 with regard to the conversion of houses

into flats, and proposals for this treated as part of the scheme under Section I., and will rank for financial assistance from the Exchequer. The Act contains an important extension of law making power of the local authority regard to the conversion of such houses to the owner. The Ministry have in preparation a Manual dealing with the conversion of houses into flats, and it is hoped that this will be issued very soon.

Local authorities will bear in mind the importance of completing at least a part of their programme at the earliest opportunity. It would be unnecessary and unduly delayed on account of any difficulties which may arise in giving effect to the circular section of the proposals. The outline scheme as set out in the Form of Survey should comprise in outline the whole of the programme of the Council, the reason why the detailed proposals should not be submitted by instalments, in many cases this will be the more advisable course.

Where the demand for houses is especially urgent, the local authority may find it desirable to provide temporary accommodation, such as army huts, pending completion of their permanent scheme, and in some cases it may be found advisable to approve plans, relating to the permanent scheme, which are not covered by the by-laws as to new street buildings. Additional powers are conferred on the local authority by the Act regarding the acquisition and disposal of land and other details. An estate acquired by the local authority, whether purchased or leased, with the consent of the Minister, and subject to suitable conditions, may be developed as a building estate. Buildings to be erected need not be confined to working-class houses, and may include factories, places of worship, recreation grounds, etc.

Rehousing schemes in connection with improvement schemes will also receive financial assistance from the Government provided that they are carried out within periods to be determined by regulations under Section 7. Apart from this there is an existing obligation on local authorities to deal with insanitary properties under Part I. and Part II. of the Act of 1890. The Act includes certain amendments affecting Part I. and Part II. schemes which effects a considerable simplification of the necessary procedure.

An important clause provides a basis for compensation in the case of houses acquired compulsorily. The compensation will be assessed on the following basis:

(1) In every case the value will be taken to be the value of the land as a site for buildings—i.e., nothing will be taken into account in respect of the cost of buildings.

(2) When provision for rehousing cannot be made on the same site the value of the site will be its value as a site available for development in accordance with the requirements of the building by-laws in force. The local authority should have no difficulty in selling without loss the rates.

(3) Where in the opinion of the Minister of Health it is necessary that provision for rehousing or for open spaces should be made on the site, or part of it, the Act provides for a reduction of the compensation payable on the above basis in



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portion of the site upon which the houses or open spaces will be provided. The amount by which the compensation is to be reduced will be ascertained in accordance with rules contained in the First Schedule, and this amount will be deducted from the total compensation payable in respect of the whole site. Thus persons interested will be equally affected, irrespectively of whether their interest is in the portion of the site used for housing or in another portion not so used.

It will be noted that none of the foregoing provisions apply to land included in the scheme only for the purpose of making the scheme efficient.

Local authority, subject to suitable conditions, may acquire by agreement land to be included in a Part I. or II. of the scheme in anticipation of the actual carrying out or approval of the scheme. Use of such provisions are included which will go to remove existing difficulties affecting the fair use of houses by the owners.

The importance of including in a town-planning scheme any area which is likely to be developed in the near future is becoming more and more evident, and the provisions contained in Part II. of the Act make more stringent the obligation on local authority in this respect. On January 1, 1923, and January 1, 1924, every borough or urban district with a population of over 20,000, will be required to prepare and submit a town-planning scheme, and the Minister may at any time require a town-planning scheme to be made, where he is satisfied, after public local inquiry, that a scheme is necessary. Further amendments have been made with a view to simplifying the procedure as far as possible in the event of a County Council or the Ministry acting in default of the local authority the costs incurred will be recoverable from the local authority, whose contribution will not in that case be limited to the proportionate rate. The Act refers to the Government Board as the Central Authority. All the powers and duties of the local authority have now been transferred to the Minister of Health. With regard to the operation of the Act to the City of London, the Minister calls attention to the responsibilities of authority under the Act of 1890, and to their powers with respect to the making of separate tenements.

ARCHITECTURAL ASSOCIATION.

The following official announcements appear in the current issue of the A.A.

School of Architecture.

The school term will begin on Monday, September 29. New students should communicate with the Secretary with a view to arranging an interview with the Principal, Mr. Robert Atkinson.

Change of Telephone Number.

Attention of members is drawn to the fact that the telephone number of the Association has been changed from 4735 Regent Street to 4735 Museum.

Library.

Building operations at 34 and 35 Bedford Square the library will be closed. Before reopening in the new premises an effort is being made to collect all books that have gone astray. Members are earnestly requested to search their shelves for borrowed books and return them as soon as possible to 35, Bedford Square.

LIVERPOOL SCHOOL OF ARCHITECTURE: ANNUAL EXHIBITION.

This year, in consequence of the removal of the school from Liberty Buildings to temporary quarters in the University itself, the exhibition of students' work was held in the Lecture Theatre of the new arts wing of the University. In quality the show maintained the traditions of the school; in extent it surpassed the exhibitions held during the war. The explanation of this latter circumstance is to be found in the rapid increase in the number of students since the spring. Whilst the war lasted, the average number per session was approximately twelve. At the close of the last session eighty-one students were attending full-time courses in architecture.

To say that the quality of the work shown sustained an established reputation is not to imply that its character was stereotyped. So large an influx of pupils had to be met by an increase in the size of the staff, and there was evidence of new blood both on the æsthetic and constructional sides. In design a greater variety of manner was especially noticeable; and as this variety showed itself as much in the work of students of the first grade as in those more advanced, it would seem reasonable to attribute it in the main to new influences in tuition.

The majority of the drawings exhibited comprised a selection from the work that is required under the regulations governing the Certificate, Diploma, and Degree courses. The remainder were made by students preparing for the R.I.B.A. Final Examination, or taking a special intensive course in design. This special course—of six months' duration—was devised to meet the needs of "Members of His Majesty's Forces demobilised or on educational leave," whose architectural studies had been interrupted by the war and who desired a refresher course in design.

Some twenty students took advantage of this opportunity. They were nearly all Australians, and their work was of considerable interest. It revealed, on the one hand, the need of properly equipped schools of architecture in Australia, and, on the other, the very promising nature of some of the material with which such schools would deal. Certain students in this category deserve particular mention—Messrs. Lightfoot, Stinton, and Knight—whilst the drawings of Mr. J. Murray Noone would have done credit to the third year grade of any architectural school.

Of those students qualifying in the final stage of the regular courses, the following displayed work of exceptional ability:—Mr. G. Davidson (awarded degree of B.Arch.), Mr. B. Butler (First-class Certificate, Holt Travelling Scholar in Architecture (£50) and First Lever Prizeman (£15), Mr. H. Bustillo (First-class Certificate), Mr. R. David Jones (First-class Certificate: Kitchener Scholar), Mr. Clifford Holliday (Diploma), and Mr. M. R. La Silles Kelly (Diploma). The latter's drawings for "A Public Bathing Establishment"—a scheme submitted and passed as a thesis design for the R.I.B.A. Final and executed on the scale of a Beaux Arts concours projet—made an effective feature of the exhibition.

A large number of well-drawn and cleanly rendered compositions of Classic and Renaissance elements were presented by first-year certificate and degree students. The most versatile and compe-

tent of the *nouveaux* appeared to be Mr. E. R. Arthur (N.Z.), Second Lever Prize-man; admitted, in view of his qualifications, to the Second-year Grade of the Degree Course). His output and the range of his subjects showed a rapidly maturing facility. In this respect Mr. G. Checkley (N.Z., admitted to same grade) came a close second. Excellent measured studies of Edinburgh University were submitted by Mr. Saroj Subhung (Third Year, Diploma Course). The work of Miss E. Blackwell (First Year Certificate: awarded a studentship in architecture) was distinguished by exceptional care and neatness.

Next year the exhibition will inevitably be the largest in the history of the school. It is anticipated that the session will start with over one hundred students taking full-time courses, as more than that number of applications have already been received.

THE DIAMOND JUBILEE OF THE "IRISH BUILDER AND ENGINEER."

The proprietors of the "Irish Builder and Engineer" are to be complimented upon the publication of the Diamond Jubilee number of that excellent periodical, which was founded in Dublin in 1859, and has since done very much to further the art of architecture in the "Emerald Isle." It is a happy coincidence that their diamond jubilee issue should appear at a moment when everyone is looking forward to a great period of reconstruction and development.

The issue contains a fine array of articles and contributions. From an article on the Georgian houses of Ireland we make copious extracts on another page.

Another article of outstanding interest is "Sixty Years of Architecture in Ireland," by R. M. Butler, F.R.I.B.A., which deals succinctly with building progress between 1859 and 1919. The two dominant events of this period are, of course, the decline and extinction of the old classical tradition of Ireland, and the incidence of the Gothic revival which synchronised with the great church-building period in Ireland.

Speaking of John Skipton Mulvanny, who designed the railway station and hotel, Galway, in 1841, and many other notable buildings, the writer claims that he was undoubtedly the greatest native-born architect Ireland ever produced.

Finally comes a reference to architectural education, which in Ireland during the past sixty years has made but little real progress. The old-established schools of the Royal Hibernian Academy and the Metropolitan School of Art have neither attracted students of architecture nor administered to their needs. No other schools provided for their requirements.

A Chair of Architecture has been established in University College, Dublin, but has not been largely availed of. Therefore the whole system of training and academic teaching still remains in an eminently unsatisfactory state.

"The Great Adventure," by H. H. Allberry, A.R.I.B.A., hon. secretary Royal Institute of the Architects of Ireland, deals trenchantly with the housing of the labouring classes. "A Distant View of Dublin" is contributed by Professor A. E. Richardson, F.R.I.B.A.

Numerous illustrations grace this exceptionally interesting special issue.

Standard Specification for Cottages

(Concluded from No. 1287, page 310.)

Carpenter and Joiner.

80. Thicknesses.—The thicknesses of all joinery specified are before planing, and 1-1/16 in. will be allowed for each wrought face from all specified thicknesses.

81. Storing Joinery.—All joinery immediately after delivery at the site is to be stored and protected from the weather. The floor boards are to be stacked on the site face downwards within a month of commencement of the work, and to be protected from the weather at least one month before use.

82. Painting Joinery Previous to Fixing.—All joinery specified to be painted is to be knotted and primed before leaving the joiner's shop. The bottom edges of all doors are to be primed and painted one coat just previous to hanging. The backs of all window frames and back linings and the backs of external door frames are to be coated with one coat of creosote or other approved material. (See also Painter.)

83. Materials for Carcassing.—The timber used is to be sound redwood or whitewood of suitable building quality, and not inferior to good fourth Swedish classification; or equal quality in Finnish or Russian production, spruce, red pine, pitch pine, Oregon pine or British Columbia pine. All to be reasonably seasoned. Wrack and dead wood will not be permitted.

84. Home-grown Timber for Carcassing.—Oak, chestnut, larch, spruce, or Scotch fir may be used for carcassing, if of an approved quality and growth and felled during the winter months. All to be reasonably seasoned. Wrack and dead wood will not be permitted. The scantlings are to be similar to those specified for imported timber, except in the case of oak and chestnut, when the scantlings can be reduced 1 in. in depth. Oak or chestnut beams may be used to support the first-floor joists, which may then be of the scantlings suited to the reduced span.

85. Materials for Joinery.—The timber used is to be sound redwood or whitewood of suitable joinery quality, and not inferior to good third Swedish or White Sea classification, or equal quality in Finnish or Russian production, red pine, pitch pine, Oregon pine or British Columbia pine. All may be used for both external and internal work, with the exception of whitewood and yellow pine, which may only be used for internal work. All the wood must be seasoned and dry. Wrack and dead wood will not be permitted.

86. Timber Generally.—All timber is to be cut square, free from excess of wane or discoloured sapwood.

N.B.—These descriptions of materials for carcassing and joinery will only apply during the period of scarcity of timber. As the supplies improve fresh descriptions will be issued.

87. Sills.—The oak or chestnut used for sills is to be free from sapwood, dead knots, or other defects, and to be well seasoned and dry.

88. Framed Work.—All doors and other framed work are to be put together immediately upon the general work being commenced, but not to be fixed and wedged until the joinery is prepared in readiness for immediate fixing. All framing is to be put together with well-fitting mortise and tenon joints wedged up solid.

89. Ground Joists and Sleepers.—Where there are not solid lower floors there are to be ground joists on 4 in. x 1 1/2 in. fir sleepers about 6 ft. apart, which are to be bedded down upon the honeycomb 4 1/2 in. brick sleeper and fender walls and kept 1 in. clear of all external walls; these sleepers are to be coated with one coat of creosote all round before bedding.

90. Floor Joists.—Construct the wood floors with joists of the following scantlings or with joists of equal area and suitable depths:—

Depth in inches when the breadth of joists is:—			
	2in.	2 1/2in.	3in.
Length of the bearing not exceeding 5 feet	4in.	—	—
6 "	4 1/2in.	4in.	—
8 "	5 1/2in.	5in.	4 1/2in.
9 "	6in.	5 1/2in.	5in.
10 "	6 1/2in.	6in.	6in.
11 "	7in.	7in.	6in.
12 "	8in.	7in.	7in.

The upper floor joists are to bear direct on the brick walls without wall plates. The ends of the joists are to be bedded up level and carefully brick-filled between the ends. All floor joists are to be fixed at spacings not exceeding 14 in. apart, and each joist is to have a full wall bearing at each end. The trimmers and the trimming joists are to be 1/2 in. thicker than the other joists. All the floor timbering is to be properly trimmed and tusk tenoned. Filleting is to be put around the hearth trimmings for receiving brick or concrete hearths.

91. Cross-strutting.—Put one row of 1 1/2 in. x 1 1/2 in. sawn herring-bone strutting to all bedroom floors where the bearing of the joists exceeds 8 ft. Solid strutting will be permitted.

92. Flooring.—Lay the wood floors with 1 in. straight joint or ploughed and tongued (according to local custom) floor boards of varying widths, thoroughly seasoned, well jointed and securely fixed to each joist with two 2 1/2 in. brads well punched down. All the flooring is to be well cleaned off and protected. Put properly mitred margins around all the hearths.

93. Suspended Concrete Floors and Floor Finishes.—Suspended concrete floors may be used to the upper floors, formed of hollow blocks with reinforced concrete or with reinforced beams and reinforced cast concrete slabs of the necessary strength

to suit the bearings, or other approved form of construction. Details must be given of the form of construction intended. The finishing to the ground floors of parlours and living rooms and to the first floors where suspended concrete floors are utilised may be formed with approved composition flooring or screeded with 1 in. thickness of Portland cement and sand (gauged 1 and 3), finished perfectly smooth and hard with a steep trowel. These finishings are not to be executed until just before the houses are completed. The composition flooring is to be polished with wax or other approved preparation.

94. Ceiling Joists.—The ceiling joists are to be 2 in. in thickness, spaced not exceeding 14 in. apart, not less than 4 in. or more than 5 in. deep, trimmed properly around trap doors and stacks, with stiffeners 5 in. x 1 in. and hangers 3 in. x 1 1/2 in. wherever required fixed to purlins and rafters.

95. Roofs.—Construct the whole of the roofs with timbers of the following scantlings or of equal area and suitable depths:—

Rafters spaced not exceeding 14 in. apart. Length of bearings not exceeding—		Dimensions.
5 ft.	3 in.	x 2 in.
6 ft.	3 1/2 in.	x 2 in.
7 ft.	4 in.	x 2 in.
8 ft.	4 1/2 in.	x 2 in. or 4 in. x 2 1/2 in.
9 ft.	5 in.	x 2 in. or 4 1/2 in. x 2 1/2 in.

Hips and valleys are to be 9 in. x 2 in. or 11 in. x 1 1/2 in. and ridges 7 in. x 1 1/2 in. Put 1 in. boarding to valleys in slated roofs. The roofs are to be stiffened with the necessary collars and struts to carry 5 in. or 3 in. purlins at intervals of about 6 ft. The rafters are to be notched and spiked to the wall plates, purlins, and ridges. The ceiling joists are to be spiked to the rafters and ceiling beams.

96. Fascias.—A wrought fascia board 5 in. x 1 in. may be used spiked to the feet of the rafters to serve as a tilt for the tiling or slating with 3/4 in. soffit boarding on suitable bearers; or the brackets to eaves gutters may be screwed to the sides of the projecting rafters. Where no soffit boarding is intended, the battens on backs of projecting rafters are to be omitted and 1 in. boarding is to be fixed instead. The feet of rafters and soffit of roof boarding where projecting are to be treated with one coat of approved wood preserving stain as described in Painter.

97. Projecting Eaves.—Eaves should not project more than 12 in. beyond the face of the wall.

98. Wood Fixing Slips, etc.—Deal fixing slips are to be built in dry in the joints of brickwork or walling, or otherwise coke breeze bricks are to be built in for fixing joinery.

99. Skirtings.—Put 3 1/2 in. x 1/2 in. chamfered skirtings plugged to walls over all wood or composition flooring. 1 1/2 in. x 1 1/2 in. quadrant skirting fillet may be used in place of the above skirting.

100. Chair Rails.—Put to living rooms a 3 1/2 in. x 1/2 in. twice chamfered chair rail plugged to wall at a height of 2 ft. 6 in. from floor to bottom of rail.

101. Picture Rails.—Put around the living rooms, parlours, and bedrooms a picture rail 1 in. x 1 1/2 in. plugged to walls. As an alternative picture rail, a light steel tube with sleeve brackets, finished black, pinned into walls and carried across window as curtain rod, may be used.

102. Cloak Rails.—Cloak rails 6 ft. long 1 in. x 4 in. plugged to walls are to be fixed where indicated, and six hat and coat hooks are to be screwed thereon.

103. Air grids.—Provide and fix in the larder fly-proof perforated zinc cover over the air brick fixed to small wood beading. Where air bricks are provided to bedrooms, they are to be fitted with wooden hoppers.

104. Windows.—All windows should be fixed close to the external wall face.

105. Double Hung Sashes and Frames.—The sash frames for double-hung sashes are to have 7 in. x 3 in. weathered and checked oak or chestnut sills, throated on underside, 4 1/2 in. x 1 in. deal pulley stiles and heads, 4 1/2 in. x 1 in. outer linings, extended where there are arches over, 3 in. x 1/2 in. inner linings, 1 in. x 3/4 in. inside beads, 5 in. x 1/2 in. back linings, 1 1/2 in. x 1 in. parting slips, 1 in. x 1/2 in. parting beads, and 2 1/2 in. x 1 in. draught boards. The sashes are to have 1 1/2 in. x 3 1/2 in. bottom rails, 1 1/2 in. x 2 in. top rails and stiles, 2 1/2 in. x 1 1/2 in. meeting rails, and 1 1/2 in. x 1 1/2 in. square, chamfered, or moulded bars. The sashes are to be hung on stout cords with iron weights, and to have 1 1/2 in. brass-faced axle pulleys.

106. Casements.—The casement frames are to have 6 in. x 3 in. weathered and checked oak or chestnut sills, throated on underside, 4 in. x 2 in. deal frames and mullions, with 1 in. rounded stops planted on and mitred, with casements fixed or hung therein, having 2 in. x 1 1/2 in. top rails and stiles, 3 in. x 1 1/2 in. bottom rails, and 1 1/2 in. x 1 1/2 in. square, chamfered, or moulded bars.

107. Yorkshire Windows.—Yorkshire windows are to have 6 in. x 3 in. weathered and checked oak or chestnut sills, throated on underside, 4 in. x 2 in. deal frame with 1/2 in. parting bead, 3/4 in. sash beads, and 3/4 in. x 1/2 in. hardwood rounded runner let into sill, with sashes similar to last, some of the sashes being fitted to slide. Fit each sliding sash with 3 in. jappaned iron cabin hook on plate and two eyes.

108. Skylights.—Where no windows are provided to staircases, supply and fix a standard pattern cast-iron ventilating glazed skylight fixed on the batten-iron before the roof covering is put on. Trim and

form opening in rafters and in ceiling joist form well-hole with 3 in. x 2 in. timbers, ironing joists up to soffit of rafters and line with plaster or fibrous slabs as described in Plasterer.

109. Steel Windows.—Where these are made of they are to be as specified in Founder and set solidly and pointed up in cement as the proceeds.

110. Cover Fillets.—Put 1 in. x 1 in. q rounded or moulded cover fillets internally and nally around windows after the plastering is pleted and before finishing coat of roughca harling is applied.

111. Window Boards.—The windows are to 1 in. deal rounded window boards tongued t sill, or the sills can be finished with red tiles set and pointed in cement mortar.

112. Doors Generally.—The doors are to be uniform height, and all doors giving access to and cupboards are to be 2 ft. 8 in. wide, the to w.c.'s, e.c.'s, larders, coal stores, and ou ings are to be 2 ft. wide.

113. Front Doors.—The front doors are to be thick, with 4 1/2 in. top rails and stiles, 9 in. lo bottom rails, 1 1/2 in. lower panels, bead and flush on the outside, 1 1/2 in. x 1 1/2 in. squared, fered or moulded glazing bars in the upper and 1/2 in. ovolo moulded glazing beads. Ser 1 1/2 in. x 3 in. shaped weather fillet let int bottom rail of door, the full width of door, the to be notched for same, and the ends of the w fillet slightly slayed. These doors are to be with three 4 in. butts to 4 1/2 in. x 3 in. rebat moulded frames, the heads having 4 in. hor building into the walls.

114. Back Doors.—The back doors are to be framed and ledged doors, having 4 in. x 1 1/2 in. x 1 1/2 in. stiles, 9 in. x 1 in. or 8 in. x middle and bottom rails, and 1 in. tongued g and V-jointed boarding, in widths not exceedi each hung with three 4 in. butt hinges to 4 1/2 in. rebated and moulded frames, the heads 4 in. horns for building into the walls.

115. Internal Doors.—The internal doors : be 1 1/2 in. four-panel square doors, with 9 1/2 in. or 8 in. by 1 1/2 in. lock and bottom 4 1/2 in. by 1 1/2 in. or 4 in. by 1 1/2 in. top rails, m and stiles, and 3/4 in. panels, hung with pair o butts to 6 in. by 1 1/2 in. lining, with 3 in. by stops for 4 1/2 in. walls, or 4 in. by 1 1/2 in. with 2 in. by 1/2 in. stops for 3 in. slab co partitions. The frames are to be grooved deep at back to receive edge of concrete parti and they are to be carried up and securely to the ceiling joists at top and to the floors a

116. Lugged and Braced Doors.—The coal and w.c. or e.c. are to have 1 in. ledged and doors, with 7 in. by 1 1/2 in. ledges, 4 1/2 in. by braces, 1 in. tongued, grooved and V-pointed ing, and hung with 14 in. Tee hinges to 4 in. frames with 3/4 in. rounded stops planted

117. Iron Dowels.—Put 3/4 in. wrought iron 4 in. long between feet of frames of external and thresholds under same. The dowels are galvanised after being cut to lengths.

118. Fanlights.—Provide and fix around i doors wherever required 1 1/2 in. moulded fan and glaze same with 15 oz. sheet glass; the and frames of doors being carried up to t same.

119. Architraves.—Provide and fix around ways 3/4 in. by 2 1/2 in. moulded, rounded, or cha fillet architraves.

120. Dressers.—In districts where dresser usually provided in living rooms, they are constructed with 1 1/2 in. table top 18 in. wide the part below same enclosed and fitted with square doors hung with pair of 2 in. butts fitted with iron butterfly turnbuckle and 1 in. pot board and bearers, and 1 in. shelf closed portion, with drawers 7 in. high havin beaded front and 3/4 in. rims dovetailed to and 3/4 in. bottom on proper runners, the part table top to have two 1 1/2 in. diminished stan three 1 in. grooved shelves with fillet at plugged to wall as bearer the full length of s and 1 in. top with 1 in. by 1 1/2 in. cornice. P and fix to each drawer two plain blacke handles, and to shelves two dozen brass cu jug hooks. Where it is usual for tenants to vide their own dressers, a suitable place or is to be formed to receive them.

121. Staircase.—Construct the staircase 1 1/2 in. treads, with rounded nosing, and 1 in. tongued in both edges and glued, blocke bracketted on stout fir carriages, 1 1/2 in. w wall strings and 1 1/2 in. outer strings framed t newels with shaped or turned top. The sta enclosed between walls are to have 2 in. by hollowed wall handrail screwed to plugs int and staircases open on one side are to have by 2 in. American whitewood oval handrail to 1 in. deal square balusters spaced two per Where stairs are open on one side, encl space under same with 3/4 in. matched and V-j boarding nailed to fir bearers to form cupboar form an edged door hung with pair of 8 in. iron strap hinges to 3 in. by 2 in. deal fram fitted with straight cupboard lock.

122. Cupboards.—The cupboards are to be of 3 in. concrete slabs, with the partitions cl up to the ceiling, with 1 1/2 in. doors and tra previously described for internal doors, excep the doors are to be fitted with 1 1/2 in. iron on plate and 1 1/2 in. iron knob. Provide and in above floor one 3/4 in. shelf on chamfered b

n. by 5 in. chamfered bat rail under shelf
nanned malleable iron wardrobe hooks spaced
art.

inen Cupboard.—The linen cupboard is to be
ed as last described and fitted with three
slat shelving of $\frac{3}{4}$ in. by 2 in. slats spaced
part on chamfered bearers.

elving.—Provide and fix above the slate or
elving in larger three tiers of 1 in. deal
one 11 in. and two 9 in. wide, on cham-
ers. Provide and fix 50 ft. run of 1 in.
shelving in suitable positions upon deal
brackets, or stamped steel brackets, and
pin rails.

al Boards.—Provide for coal store four
y 9 in. coal boards 3 ft. high to slide in
runners nailed to door frame.

aining Board.—Provide and fix at side of
n. beech or sycamore, ledged and grooved,
board, with $\frac{3}{4}$ in. by 3 in. skirting next
ixed on deal bearers and gallows brackets
equied.

rap Door.—Provide in ceiling over staircase
al ledged trapdoor 2 ft. by 2 ft. for access
with 1 in. beaded lining around. The lining
is deeper on two opposite sides, so as
to be secured with two bolts.

lothes Posts. Provide two 4 in. by 3 in.
sthes posts 10 ft. long each with two turned
d or iron pins at top. Set the feet of
to the ground 2 ft. 6 in. deep, and nail on
gh bases 9 in. high mitred around between
ad air, and once creosote same before fixing.
eneral.—Provide and fix all blocks, plugs,
quied, and do everything necessary to com-
e carpenters' and joinery work to the satis-
of the architect.

Ironmongery.

eneral.—The ironmongery generally is to be
approved standard patterns. All brass
is to be fixed with brass screws. All butts
be best quality pressed steel butts. The
all locks and night latches to external
re to differ for each cottage.

Plasterer.

me.—The lime for plastering is to be well
one or chalk lime, and it is to be run into
least one month before use.

nd.—The sand for plastering is to be clean,
ver or pit sand, free from earth, loam, or
materials, and well screened.

air.—The coarse stuff throughout is to have
good long hair, free from grease or other
es, well beaten up and mixed with every
of the coarse stuff. If mill-ground coarse
made use of, the hair is to be added after

aths.—The laths are to be rent of single
sawn lath and half strength; each lath is
properly secured with 1 in. wire nails to
ling joist, butt jointed, and to break joint
ree feet.

ement.—The Portland cement is to be as
ly described

roportions of Materials.—For the coarse stuff
of lime is to be well mixed with three parts
by measure, and in this is to be incorporated
hair with every cube yard. For the setting
less than one part of lime putty is to be
ed with one part of clean sand.

illings and Soffits.—Lath and plaster with
ts the whole of the ceilings, sloping ceilings,
soffits of the staircases wherever they are

Fibrous plaster seasoned slabs $\frac{5}{8}$ in. thick
h a rough surface for plastering fixed with
composition nails, 4 in. centres, and finished

etting coat may be used in place of last.

oat and Set.—Float and set the whole of
r wall and partitions, excepting in scul-
rider, coal store, w.c., e.c., back entrance
and outbuildings. If fair face cannot be
l with the bricks available, the walls of
lery and larder are to be plastered in

l cement and sand gauged 1 to 3 to a height
6 in. above floor as dado finished with
top edge. In all cases the plastering on
d partitions is to be continued down to the
els.

lient Angles.—The external angles through-
plastered walls are to be slightly rounded

irst coat of plastering thereon is to be
with cement.

ement Skirting to Sink.—Put Portland
skirting to sink where it abuts against walls
the window sill, or otherwise 9 in. high,
d to a smooth and impervious face; or
ile skirting may be used.

overing Cavities.—Where hollow walls are
d put rough pieces of slate or tile to the
and sills set in cement to cover wall cavities
sary.

oughcast, etc.—Where indicated on draw-
at in cement and sand one to three not less
n thick, well score the same and finish with
face roughcast or harled.

eneral.—Make good after all other trades
ve the plasterer's work perfect on com-

Founder and Smith.

aves Gutters.—The eaves gutters are to be
n beaded, half-round standard pattern, the
ade in red lead and bolted, fixed on standard
ed wrought iron or galvanised stamped steel
s, two to each 6 ft. length of gutter, with
ends for driving into the concrete eaves
or screwed to the feet of the rafters,
pieces or fascias. Provide all requisite cast
stopped ends and outlets with nozzles.

nd Pipes.—All the fall pipes are to be cast
ndard pattern piping with projecting ears to
es 1 in. clear of the walls, fitted with all

necessary swan-necks, shoes, and heads, and fixed
with 3 in. rose-headed nails.

146. Steel Casements.—Where steel windows are
intended to be used, they must be of approved
standard pattern with lugs bolted on for building
into walls.

147. Stoves and Ranges.—The stoves are to be
generally of the mantel register type selected from
standard patterns. The ranges are to be of standard
patterns.

148. Dustbin.—Provide and place in position a
standard galvanised iron sanitary dustbin 18 in.
diameter and 24 in. high, complete with cover.

Plumber.

149. Materials and Workmanship.—All the lead
used is to be the best milled lead, and of the full
weight specified. The running joints in lead pipes
and the joints to fittings are to be wiped soldered
joints.

150. Chimney Aprons.—The aprons of the lower
sides of the chimney stacks are to be 4 lb. lead
let $\frac{3}{4}$ in. into the joints of the brickwork or walling,
to be brought not less than 3 in. down the chimney
side, and to lie 6 in. on the tiles or slates, secured
with lead wedges and pointed in cement, well
worked round the returns of the stacks, and there
covered with the over flashings.

151. Gutters.—Lay the gutters behind chimney
stacks (where required) with 5 lb. lead turned up
4 in. against brickwork and 8 in. under slates or
tiles, and not less than 6 in. wide on sole at nar-
rowest part.

152. Soakers.—In all cases where the raking line
of tiling or slating meets brickwork or walling, 3 lb.
lead soakers are to be fixed one to each slate or
tile, turned up 3 in. against the walls and lying 5 in.
on the slating or tiling, and to be 3 in. in addition
to the full gauge of the tiles or slates.

153. Flashings and Valleys.—The lead soakers are
to be covered with 4 lb. lead stepped flashings 8 in.
wide, turned $\frac{3}{4}$ in. into the joints of the brickwork
or walling secured with lead wedges, and pointed in
cement. The straight flashings are to be similar, but
6 in. wide. Lay the valleys in slated roofs with 4 lb.
lead 15 in. in girth.

154. Water Service.—Lay on water service to house
in accordance with the local regulations with either
lead pipe or galvanised wrought iron steam tubing
as required, and connect with the public water
main. Provide a screw-down stop-cock fixed inside
each house, easy of access, where the main supply
enters the house, and one on the down service just
under the cistern.

155. Cistern.—Carry a $\frac{1}{2}$ in. rising main up to a
40-gallon standard galvanised iron cistern fixed on
sufficient bearers, and take $\frac{1}{2}$ in. branch pipes from
the rising main direct to the sink, bath, copper,
lavatory basin, and water waste preventer.

156. Ball-cock.—Provide and fix ball-cock over cis-
tern.

157. Warning Pipe.—Provide and fix an iron or
lead warning pipe connected to cistern, of sufficient
size, discharging in an exposed position outside
with copper hinged flap on end.

158. Wastes.—From the sink and lavatory basin
take $\frac{1}{2}$ in. and from the bath take $\frac{1}{2}$ in. iron waste
pipes to the open, connected to the traps of the
fittings and discharging over gullies or hopper
heads.

159. Rainwater Butts.—Wherever rainwater butts
are shown on the plans they are to be 40-gallon
petroleum casks, well burnt out, and twice tarred
externally, fitted with a 1 in. deal ledged cover twice
tarred, perforated for the inlets. A $\frac{1}{2}$ in. iron over-
flow is to be fixed to the cask connected by an elbow
with screwed and pointed washers to the barrel to
discharge over an adjacent gully or otherwise carried
to a point at least ten feet away from the building
where a soakaway is to be made one yard cube
in all.

160. Soil Pipes.—All the soil and ventilating pipes
are to be $\frac{3}{4}$ in. cast-iron standard pattern dipped
in Dr. Angus Smith's solution, with projecting ears
fixed with 3 in. rose-headed nails, the joints caulked
and run with blue lead or caulked with lead wool.
The branch soil pipes and junctions are to be of
standard pattern. The ventilating pipes are to be
carried up 2 ft. above the roof or the top of the
nearest dormer window, through the eaves of roof
where these occur, flashed with a 5 lb. lead tile or
slate soldered to the iron pipes tinned for the pur-
pose and terminated with a copper-wire balloon
grating. The trap of w.c. is to be connected to
the socket of the branch pipe and caulked with
gaskin and jointed in red lead. The feet of soil
and ventilating pipes are to be connected direct to
the salt-glazed ware bend and caulked with gaskin
and jointed in Portland cement and sand gauged
1 to 3.

161. Bath and Lavatory Wastes.—The external
wastes to the bath and lavatory basin on the first
floor are to be 2 in. cast-iron standard pattern, all
as described for soil and ventilating pipes, but
jointed in red lead and tow, with hopper heads to
receive the discharge pipes at the top and shoe at
bottom to discharge over gully.

162. W.C. or E.C.—The w.c. is to be a stoneware
pedestal closet with water-waste preventer with $\frac{1}{2}$ in.
galvanised steel flush-pipe and $\frac{1}{2}$ in. plain hardwood
seat, unpainted, in one thickness all to approved pat-
tern. The flush-pipe is to be jointed watertight to the
flushing arm of the w.c. Put $\frac{1}{2}$ in. wrought-iron
overflow to the water waste preventer carried through
the external wall with a projection of 6 in. The
e.c. is to have a strong galvanised iron sanitary
pail with handles, and is to be fitted with $\frac{1}{2}$ in. seat
with properly dished hole on 5 in. x $\frac{1}{2}$ in. bearers.

163. Washing Copper.—Washing copper, see Brick-
layer. Provide and fix over copper $\frac{1}{2}$ in. bib cock.

164. Sink.—Sink, see Bricklayer. Provide and fix
over sink two $\frac{1}{2}$ in. bib cocks marked "Hot" and
"Cold" respectively.

165. Lavatory Basin.—The lavatory basin is to be

glazed stoneware with overflow, brass waste, plug,
and chain, and hot and cold taps, and iron tap, and
is to be fixed on brackets or bearers, the whole
to standard pattern.

166. Bath.—The bath is to be cast-iron greenstone
vitreous enamelled set on feet, with brass waste,
plug, and chain, hot and cold taps, and iron trap,
all to standard pattern.

167. Cocks.—The bib, stop and ball cocks are all
to be brass of approved pattern.

168. Testing.—Test the whole of the internal
plumber's work, water supply and fittings, and leave
in perfect order at completion.

Hot Water Fitter.

169. Pipes.—The pipes are to be wrought iron welded
steam tubing as previously specified for water
supply, except in districts where lead or copper
pipes are necessary, when they are to be as here-
after specified.

170. System.—The hot water supply may be pro-
vided by means of either the tank or the cylinder
system, or where the bath is on the ground floor and
not far from the boiler, an approved "Gravitation"
system.

N.B.—In each case the system proposed to be
adopted must be specified and comply with the fol-
lowing requirements:

From the cold water cistern take a $\frac{3}{4}$ in. gal-
vanised steam barrel supply to the hot water
apparatus, with a screw-down stop-cock in same just
under cistern. The tanks or cylinders are to be 14
gauge tested galvanised wrought iron of 30 gallon
capacity, with bolted manhole in same and with
flanged connections for pipes. The flow and return
pipes are to be not less than 1 in. diameter, and
in districts where the water is hard the flow and
return pipes are to be not less than 2 in. diameter
for 6 ft. above boiler. From the flow pipe near the
boiler take a branch to a convenient position and
fix thereon a dead-weight safety valve. Take $\frac{3}{4}$ in.
branch to the bath and $\frac{1}{2}$ in. branches to sink and
lavatory basin. Provide $\frac{3}{4}$ in. expansion pipe de-
livering over the cold water cistern. Form draw-off
at lowest point in system with $\frac{1}{2}$ in. tubing properly
connected to same, and provide and fix bib cock to
empty system.

171. Lead or Copper Pipes, and Copper Boiler and
Cylinder.—In districts where iron pipes, boilers, and
cylinders are not serviceable, the pipes are to be
in lead and copper, and the boiler at back
of the range and the cylinders are to be of copper.
The lead pipes are to weigh as follows: $\frac{1}{2}$ in. dia-
meter, 6 lb. per yard; $\frac{3}{4}$ in. diameter, 9 lb. per
yard; 1 in. diameter, 12 lb. per yard; $1\frac{1}{4}$ in. diameter,
18 lb. per yard. The copper pipes are to be of
No. 10 gauge. The copper boiler to be 3-16 in.
plate to hold 3 gallons, with bosses brased on and
tapped for connections to pipes. The cylinders are
to have No. 22 gauge copper body and top, and
No. 18 gauge bottom with bosses brazed on and
tapped for connections to pipes.

172. Testing.—Test the whole of the hot water
service and leave in perfect working order at com-
pletion.

Gas or Electric Light Supply.

173. General.—Arrange with the local gas or elec-
tric light supply undertakers for the gas light
and cooking or electric light installation complete.

Glazier.

174. General.—The windows are to be glazed with
seconds 15 oz. sheet glass except where the squares
exceed 1 ft. 6 in. superficial area, in which case
21 oz. sheet glass is to be used, well-bedded,
sprigged, and puttied. Front door and w.c. and
ground floor bath room windows are to be glazed
with approved obscured glass. All glazing rebates
are to be primed. All putties are to be painted two
coats.

Painter.

175. Paint.—The paint is to be obtained from an
approved manufacturer, supplied ready mixed for
use, of approved plain tints. The paint is to be
used as sent by the manufacturer and each coat is
to be of a distinctive colour. The paintwork is to
be well rubbed down before the last coat is applied.

176. Ironwork.—The ironwork is to be cleaned
entirely free from rust and to be painted one coat
of oxide of iron paint just previous to fixing and
two coats of oil colour after fixing. Eaves gutters
are to be painted inside and out. Coated soil, vent,
and waste pipes are to be once knotted and painted
two coats. All iron pipes inside houses not gal-
vanised are to be painted one coat of oxide of iron
paint before fixing and one coat of oil colour after
fixing, and where exposed distempered or whitened
with the walls and ceilings.

177.—Blacking.—Clean and once black all stoves,
range, copper, and flue pipe from same, where not
galvanised, and clean and polish the bright portions
of range.

178. Internal Woodwork.—The whole of the internal
woodwork usually painted is to be finished in one
of the following methods: (a) Treated with one coat
of approved wood preserving stain to approved tints.
(b) The inside of windows and window boards is to
be painted three coats of oil colour, as described
for external woodwork, and the remaining work
treated with one coat of approved wood preserving
stain to approved tints.

179. External Woodwork.—The whole of the
external woodwork is to be carefully knotted with
patent knotting and primed before leaving the
joiner's shop, and after fixing stopped with hard
stopping and painted three coats of oil colour,
including the putties of glazing, except where other-
wise described. The feet of rafters and soffit of
roof boarding where projecting are to be treated
with one coat of wood preserving stain.

180. Backs of Window and Door Frames.—The
backs of all window frames and back linings and the

backs of external door frames are to be coated with one coat of creosote or other approved material.

181. Glazing Rebates.—All glazing rebates are to be primed.

182. Whitening and Distemper.—Clear-cole and once whiten all ceilings; also all friezes above picture rails. All wall surfaces, except in coal store, are to be clear-coled and once distempered with washable distemper of approved tints. The coal store is to be twice lime whitened. Any cracks, blisters, or other imperfections in the plaster work are to be cut out, carefully stopped, and made good before any distemping is put in hand.

183. General.—Clean down the external faces of buildings, wash off stains, clear off marks of mortar and cement, clean windows inside and outside, scrub pavings and floors, clear away rubbish and waste materials, and leave all parts of the premises clean and perfect at the completion of the work.

WEEKLY HOUSING RETURN.

The return of housing progress issued weekly by the Ministry of Health says:—

During the week ended August 30 161 new schemes were submitted to the Ministry, and 110 schemes were approved by them. The total number of schemes submitted by local authorities and public utility societies is 4,546, comprising approximately 44,000 acres. The total number of schemes approved is 1,419, covering about 18,200 acres. Several of the schemes submitted or approved during the week were received from local authorities in mining districts, or in the neighbourhood. The largest scheme of the week was promoted by the Chester-le-Street Rural District Council, and relates to an area sufficient for over 1,500 houses. The Staffordshire, South Wales, and Yorkshire coalfields are also represented in the week's schemes. Schemes in their later stages are now being submitted in greater numbers. House plans from Nottingham (350 houses), Birmingham (317 houses), Eastbourne (178 houses), Manchester (150 houses), and Croydon (129 houses), were approved during the week. Altogether, plans for 1,916 houses were submitted, and approved for 1,475 houses. The attention of local authorities has been called by the Ministry to the housing obligations placed on them by Parliament in the new Housing Act, and a short summary of the principal provisions of the Act has been supplied for every member of a local authority. The Act requires each local authority to consider the needs of their district, and to prepare and submit a housing scheme by the end of October. Approved schemes which have already been submitted may, if the Ministry think fit, be regarded for the purposes of financial assistance as a contribution towards meeting the requirements of the Act. The majority of the local authorities had, in fact, submitted schemes before the Act came into force. Information is also to be supplied to the Ministry as to the slum areas which require to be dealt with, and as to insanitary houses in other parts of the district of the local authority. The Ministry have also indicated to local authorities the lines on which inquiries may be made to ascertain the needs of the district. Various sources of information, both official and unofficial, are suggested, e.g., the local food control committee and social organisations. Arrangements have also been made for the staff of the Regional Commissioners appointed by the Ministry to give assistance where it is desired, to local authorities in the carrying out of the survey of their districts and in the preparation of their schemes.

Details of the schemes of local authorities dealt with during the week are as follows:—

Building Sites.

Schemes Submitted.—The number submitted by fifty-five local authorities was

160, bringing the total number of schemes submitted to 4,481, covering approximately 41,000 acres.

Schemes Approved.—One hundred and seven schemes were approved, comprising an area of 515 acres. This brings the total number of local authorities' schemes approved to 1,392, representing approximately 18,200 acres.

Lay-outs.

Schemes Submitted.—Thirty-one schemes were submitted by twenty-two local authorities, bringing the total number of schemes submitted to 760.

Schemes Approved.—Twenty-seven schemes submitted by twenty-six local authorities were approved, bringing the total number of schemes approved to 370.

House Plans.

Schemes Submitted.—Thirty schemes, representing 1,471 houses, were submitted by twenty-five local authorities. This brings the total number of local authorities' schemes submitted to 453, representing 25,788 houses.

Schemes Approved.—Thirty schemes, representing 1,860 houses were approved, bringing the total number of schemes approved to 275, representing 16,940 houses.

INSTITUTE OF IRISH ARCHITECTS.

A Council meeting of the Institute was held recently, the President (Mr. W. Kaye-Parry, F.R.I.A.I.) in the chair. The correspondence included a letter from the American Institute of Architects in connection with architectural competitions; from the Local Government Board on the subject of the recent urban housing competition, and from the Royal Institute of British Architects referring to the organisation of educational meetings relative to housing. The Secretary was directed to communicate with the Chief Secretary for Ireland and Dr. Coey Biggar offering the co-operation of the Institute in organising meetings in Ireland. The Secretary reported that a circular had been issued to all the local authorities in Ireland on the subject of the employment of competent architects on housing schemes, and also that a letter had been sent at the request of the Ancient and Historic Buildings Committee to the Town Clerk of Dublin calling attention to the desirability of preserving the Weavers' Hall. The Council considered the supply of materials, standardisation of building details, and the employment of clerks of works and contractors in connection with housing schemes, and it was decided to address the Housing Department of the Local Government Board on the subject. A letter from the Irish National War Memorial Committee was read, and it was decided to approach the Committee with a view of holding an open competition amongst Irish architects for the design.

COMING EVENTS.

WEDNESDAY, OCTOBER 8, TO SATURDAY, NOVEMBER 1.

Housing and Health Exhibition at the Kelvin Hall of Industries, Kelvingrove, Glasgow, from October 8 to November 1. The City Corporation have found it necessary to obtain increased accommodation, and have taken possession of the building adjoining the Kelvin Hall. It has been decided to erect two model cottages in the annexe.

COMPETITIONS OPEN.

No Date.—Darwen War Memorial.

The local committee of the Darwen War Memorial invite designs from sculptors, and others, for a suitable memorial, to take the form of a monument. Premiums of £50, £30, and £20 awarded. For conditions apply to W. P. Halliwell, town clerk.

October 4.—"Daily Mail" Ideal Labour-Saving Homes.

The "Daily Mail" are offering premiums of £250, £100, and £50 for the best design for the labour-saving house, which will be one of the features of the forthcoming Ideal Home Exhibition at Olympia, February, 1920. Architects are to send designs for houses for a professional family, designed primarily for the saving of time and labour-saving. Designs to be addressed to the Secretary, Ideal Labour-Saving Home Competition, 130, Strand, E.C.4, to be delivered on October 4, 1919.

October 20.—Oxford: Housing Scheme.

The Oxford City Council invites architects to submit designs for the laying out of a congested area and the building of cottages thereon, and has appointed H. V. Lanchester, F.R.I.B.A., as assessor. All designs must be sent to the Town Clerk not later than October 20.

HOUSING THE SUBMERGED TENTH: AN INSOLUBLE PROBLEM.

In a letter to the "Daily Telegraph" correspondent says: "I noticed in a recent issue of your paper that the authorities of one district are going to erect houses costing £800 each, which could have been built before the war for £250. These houses will probably be let at 12s. per week. The housing scheme (of which the above is a sample) is going to place a very heavy burden on the taxpayer. One would ask who are to be the tenants of these houses at such high economic rents. Certainly not the working class. What, then, is to become of the submerged tenth, those who inhabit slum areas, numbering thousands in every large city?—the people whose rent is 3s. to 7s. per week, many of whom are only under pressure, and if short of money do not hesitate to burn the furniture, balusters, and skirtings of the houses they occupy. These people require housing in a special way, but they do not seem to have been considered at all in the Government scheme. Urgent legislation is surely required for this class of the community. It is not always the much-abused house owner who is responsible for the slums. More often than not it is the tenants who create them, and they must be taken in hand by the authorities. People are beginning to realise that the house owner is being badly treated by the Government. He cannot raise the rents, although tenants are letting rooms at extortionate prices, rendering more housing necessary for which the owner has to pay at a cost more than double as much as at normal times. Food is even more necessary than shelter, and yet the price of food and all other commodities and wages have been allowed to increase from 80 per cent., but the house owner is left with his hand and foot, and in very many cases his lot is indeed a hard one."

[This correspondent has simply stated an old problem to which apparently there is no solution.—EDS. A.J.]

The Week's News from Far and Near

Convalescent Hospital for Kirriemuir.
A convalescent hospital is to be erected at Kirriemuir. The estimated cost will be £10,000.

Restoration of Bangor Abbey.
Work has been started for the restoration of Bangor Abbey, Ireland, which was founded there by St. Comgall about 600 A.D.

London's Building Scheme Sanctioned.
The Merton Urban District Council has received Government sanction to its building scheme, and operations have already begun on the Botsford Road.

War Memorial for Torquay.
Reginald Blomfield has prepared plans for Torquay's War Memorial, and it is proposed to erect it in the Devonian Gardens. £1,800 is needed to carry out the work, and a public appeal is being made for funds.

Cheshire Housing.
About a hundred to 1,000 houses are to be built at Ellesmere Port and Bromborough Port, and the county architect has been requested to prepare plans for building of a temporary or semi-permanent shelter, including, where desirable, dismaying huts or similar structures.

Houses to Cost £804.
The Golcar (Yorks) Urban District Council have, subject to the approval of the Ministry of Health, accepted tenders for sixteen houses at Ryefield Road, as part of their housing scheme, amounting to £860 7s. 6d., or nearly £804 per house.

Paignton War Memorial.
The Paignton War Memorial Committee have decided to erect a plain granite monument, with plates at the base bearing the names of residents who have lost their lives during the war. The monument, which is to cost approximately £400, is to be erected in Palace Avenue Gardens.

Support Council and Army Huts.
The Support Housing Committee have decided to purchase at a reasonable price a number of army huts to relieve to some extent the great overcrowding. At least one hundred houses are immediately required. It is stated that the huts would cost £500 each.

Proposed Extension of Aberdeen Art Gallery.

Plans for a large extension of the Art Gallery at Aberdeen have been prepared by Mr. A. Marshall Mackenzie, R.S.A., and Mr. J. H. B. The total outlay is £65,000, including a new hall and art museum, gallery extension, and war memorial court.

Nottingham Housing Experiment.
The Nottingham City Council have resolved to try the experiment of building by "direct labour" as well as through conventional methods. Application was thereupon made to the Ministry of Health for the necessary sanction, and permission has now been given to the Housing and Town-planning Committee to adopt this procedure "as an experiment." Building of a large block of houses by direct labour will be commenced as soon as the plans, still before the Ministry, have been approved.

World's Fair at Paris.
The scheme for the erection of a huge exhibition on the banks of the Seine in 1925, in which will be held a permanent exhibition designed to bring together the

producers and buyers of the world, has found the support of a French financial corporation. The building, which will be constructed by the Quai de Passy, will probably cost £4,000,000. The proposition has the approval of the French authorities. The structure will have a floor surface of nearly 2,500,000 sq. ft.

Nottingham Housing Purchase.
Arrangements have been made by the Nottingham Corporation for the purchase from the Duke of Newcastle of a site on which to proceed with the first portion of the city's housing schemes. The land has been acquired for £180 an acre, and tenders for building houses at an approximate cost of £331,000 have been recommended for acceptance.

New Picture Palace for Blackpool.
The general building contract of the new Regent Picture House, to be erected at the corner of Church Street and Regent Road, Blackpool, has been let to Messrs. Chadwick Bros., of Layton. The cost will be about £30,000, and it is intended to commence building operations almost immediately, so that the new hall will be completed by February or March next.

Lord Barnard's Shropshire Estates.
Lord Barnard has decided to sell the outlying portions of his Shropshire estate, consisting of the Billingsley, Stotterdon, Corvedale, Shifnal, and Wem properties, amounting in all to about 5,300 acres. The tenants will, in the first instance, have the option of buying their holdings, and any farms not sold to the tenants will be offered for sale by public auction in October next.

Housing Exhibition for Whitechapel.
The trustees of the Whitechapel Art Gallery, in co-operation with the authorities of the Garden City Association, are arranging to hold a housing and town-planning exhibition in October and November next. Amongst the great variety of exhibits already secured it will include many models of houses of the latest design, as well as plans for the laying out of towns and suburbs and estates. A series of lectures on the subject is being arranged.

Cost of Housing.
The Minister of Health, Dr. Addison, speaking at a dinner given in his honour at the National Liberal Club, London, said that the cost of the whole land purchased for housing, which land had then been very largely acquired for town or city population, and therefore contained a high proportion of costly land, was expected to average out at £170 per acre. This figure, with an average of ten houses to the acre, represented, at 5 per cent., only 4d. per week in rent. Land therefore would not delay.

Professional Union.
The Architects' and Surveyors' Assistants' Professional Union have just issued a new prospectus, which deals with the history of the movement, the classes of membership, and the objects, organisation, achievements, propaganda and progress of the union. The union, the object of which is to provide a common organisation for salaried architects, surveyors, quantity surveyors, draughtsmen, and technical assistants, has secured the promise of Parliamentary support, and the sympathy of well-known architects, private as well as official. The R.I.B.A. and the Society of Architects have appointed

representatives to the Architects' Assistants' Welfare Committee, and the union has been rendered valuable assistance by the Architectural Association. Full particulars with regard to membership may be obtained from Mr. Chas. McLachlan, A.R.I.B.A., 34 and 35, Bedford Square, London, W.C.1.

Fuel Research Station at East Greenwich.
The fuel research station at East Greenwich, which has been in hand for two years, is now practically complete and a great part of the plant has been erected. The station is an experimental one, established by the Government to carry out the scheme of research of the Fuel Research Board set out in their report published in the autumn of 1917. The original plans were for a brick building carried on piling, but owing to the shortage of bricks and stone the Office of Works found it necessary to substitute a steel-framed structure. This required the preparation of new designs, which the Office of Works decided could only safely be carried out after boring exploration of the site. Difficulties in connection with the foundations were found to be more serious than had been anticipated, especially in connection with the central tower, which is a particularly heavy structure and forms the key to the whole design. The principal delay in the erection of the building has arisen in connection with this part of the foundation work, which was only finished in the middle of February last. Since that date the completion of the structure has been pushed ahead rapidly.

Government and the Building Trade.
The following statement has been issued by the Royal Institute of British Architects: The Building Industries Consultative Board, representing the architects, surveyors, building trades employers, and building trades operatives of the country, was recently formed by the Royal Institute of British Architects for the purpose of concerting measures to relieve the stagnation in the building trade. One of the first evils that it has had to deal with is the excessive cost of building, due in part to the uncertain supply and the high prices of building materials. The Board has been in communication with the Ministry of Munitions, which, through its Department of Building Materials Supply, is the most important single factor in determining the output and cost of materials. The Ministry has very courteously assisted the deliberations of the Board by supplying it with the fullest information as to its past procedure and present policy, and has invited from the Board an expression of opinion as to its future policy. The Board has accordingly passed the following resolutions and forwarded them to the Ministry of Munitions: (1) Resolved that, in the opinion of this Board, the stocks of bricks and other building material (in excess of actual Government requirements) which are the property of, or are controlled by, the Government should be sold in the open market with a reasonable margin above cost to cover expenses; (2) Resolved that, in the opinion of this Board, the building industry and its associated trades should now be and remain free of Government control or interference. The Board are unanimously of opinion that the speedy establishment of a free market in building materials will go far to improve the difficult situation which at present exists.

TRADE AND CRAFT.

"Winget" Pressure Machine.

The illustrations show the "Winget" pressure machine, which has been designed by Messrs. Winget, Ltd., of 25, Victoria Street, London, S.W.1, and Warwick, for the construction of concrete



Fig. 1.—Front view of "Winget" Pressure Machine, showing moulding box in position beneath the Ram Plate.

blocks and slabs, especially where light labour is available, and where the larger machine, the standard "Winget" block-making outfit, is not required. As soon as the moulding box has been filled with concrete, and roughly screeded off with the special tool provided for the purpose, it is brought into position beneath the ram-



Fig. 2.—Front view of "Winget" Pressure Machine, showing moulding box with its doors open after the removal of the finished block or slab.

plate, as shown in Fig. 1, by a single movement of the lever. Pressure is then applied by means of the hand-wheel, fitted with hand-spokes. The wheel is rotated until the ram-plate regains its original position, when, by the reverse movement of the lever, the moulding box is withdrawn to the filling position, its doors opened, and the block or slab stands ready to be carried off, a carrier being supplied for

this purpose. A new pallet is now placed in the moulding box, and the operation repeated. Fig. 2 shows the moulding box with its doors open after the removal of the finished block or slab. If necessary the hand-wheel can be detached and power applied. The moulding-box is locked by two handles, which automatically square up the box upon closing, and when in position under the press the box rests on four adjustable hard-steel points fixed into the bedplate, which ensures the moulding box returning to its exact position under the press. Pressure is applied through machine-cut gear reduction, intensified by another mechanical device to ensure direct vertical pressure. Three large diameter guide shafts are attached to the ram-plate in order to remove any danger of a tapered block or slab should the moulding box be filled unevenly. All the parts of the machine, the total weight of which, mounted on wheels, is 8 cwt., have been standardised, and a code word has been given to each part for convenience in ordering. Messrs. Winget, Ltd., claim that at least fifty blocks, each 18 in. by 9 in. by 4½ in., or 16 in. by 9 in. by 4½ in. can be produced by the machine per hour, and state that in actual experience they find that two men can easily average sixty blocks an hour—even when mixing their own material by hand. When employed in conjunction with the "Winget" concrete chain-spade mixer the output is greatly increased. The "Winget" pressure machine also manufactures partition slabs of the same superficial area as the blocks already mentioned, and of three thicknesses, 2 in., 2½ in., or 3 in. The "Winget" pressure standard outfit makes plain-faced blocks of the above dimensions—with grooved or plain ends as desired—and ornate-faced bricks. Accessories for making bricks, "frogged" or plain, are also being placed on the market.

E. Pollard and Co., Ltd.

Mr. Herbert Vincent, who, for fourteen years was sales and publicity manager at Messrs. Harris and Sheldon's, Ltd., and has latterly held a similar position with Messrs. Parnall and Sons, has been appointed manager of the sundry fittings department of Messrs. E. Pollard and Co., Ltd., shop fitters, of 29, Clerkenwell Road, London, E.C.1. Mr. Vincent has a special knowledge of modern shopfitting and business organisation—gained in the United States, Canada, and the leading European countries. Messrs. Pollard and Co. intend to open West-End salesrooms near Oxford Circus.

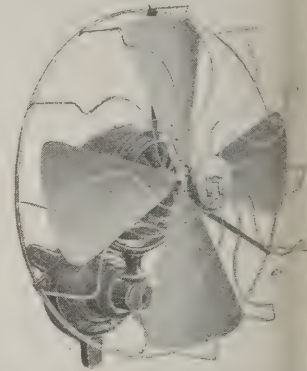
Aeroplane Hangars.

A booklet has just been issued by Messrs. Archibald D. Dawnay and Sons, of Steelworks Road, Battersea, S.W.11, which deals in particular with the housing and storing of aeroplanes, seaplanes, and flying boats. This firm of steel constructional engineers have supplied and erected workshops for some of the leading aeroplane and seaplane manufacturers in the country. The modern hangar is built on a concrete foundation, the framework consisting of steel stanchions, and lattice girders, whilst a black or galvanised sheeting is used for covering. One type of shed, illustrated in the booklet, to accommodate a number of large aeroplanes, is 130 ft. wide, 80 ft. deep, and 31 ft. clear height. The roof is saw-tooth in outline, and is constructed with one main lattice girder immediately under the ridge, sup-

ported at either end by a three-way stanchion. A number of other illustrations add to the value of the booklet.

Electric Fans.

We have received from the General Electric Co., Ltd., of Queen Victoria Street, London, E.C.4, a copy of the eleventh edition of their "Freezor" electric fan catalogue, which has been revised and brought into line with prevailing conditions. The catalogue, which is beautifully illustrated, contains full particulars as to the construction, voltage, speed, consumption weight, price, etc., of various desk and bracket fans, of fans, centrifugal fans, and exhaust



"Cast" Pattern "Freezor" Fan used as Bracket Fan.

manufactured by the company, and details also of the company's automatic shutters and speed regulators. The 12-in. and 16-in. desk fans are complete in the three styles usually known as standard, trunnion, and bracket. The provision of two sockets at right angles to each other, each having a clamping screw, permits transformation from one type to another without the addition of any fresh parts. The ceiling fans are made for use at 110 or 220 volts, and can be combined in one fitting with an electric light. The centrifugal fans are of the same design as used by the Admiralty, and in the department devoted to exhaust fans are shown a complete range of box blade fans. In 1912 the company created a separate factory, with specially designed plant at Witton, devoted entirely to the construction of fans. Standardised methods have been adopted in the manufacture of fans, so that interchangeability is secured and replacements can be readily effected. During construction inspections are made, and each fan when completed is given a trial run on load. The fans are supplied in colours to harmonise with internal decorations, or may be obtained with nickel-plated fittings. The company claims that the "Witton" design overcomes troubles arising from leaking and is efficient, and at the same time gives the fan great constructional strength.

A Christmas Musical Souvenir.

To take the place of the customary Christmas almanac, the St. Dunstan's Day, in aid of the Blinded Soldier and Sailors' After-Care Fund, of 306, Regent Street, London, W.1, have decided this year to issue a musical souvenir—a booklet called "Joy Bells of Peace," composed by Mr. Fernand Krish. St. Dunstan's hope to induce business firms to purchase for distribution as Christmas gifts to their customers, a large number of copies of the booklet. John Bellham, music department, 303, Regent Street, London, W.1, is the publisher. The back page of the value a panel is provided to receive a roll of honour or any grateful expressions from the firms purchasing the music might be used to embody.

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The Architects' Journal
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THE ARCHITECTS' JOURNAL

FOR

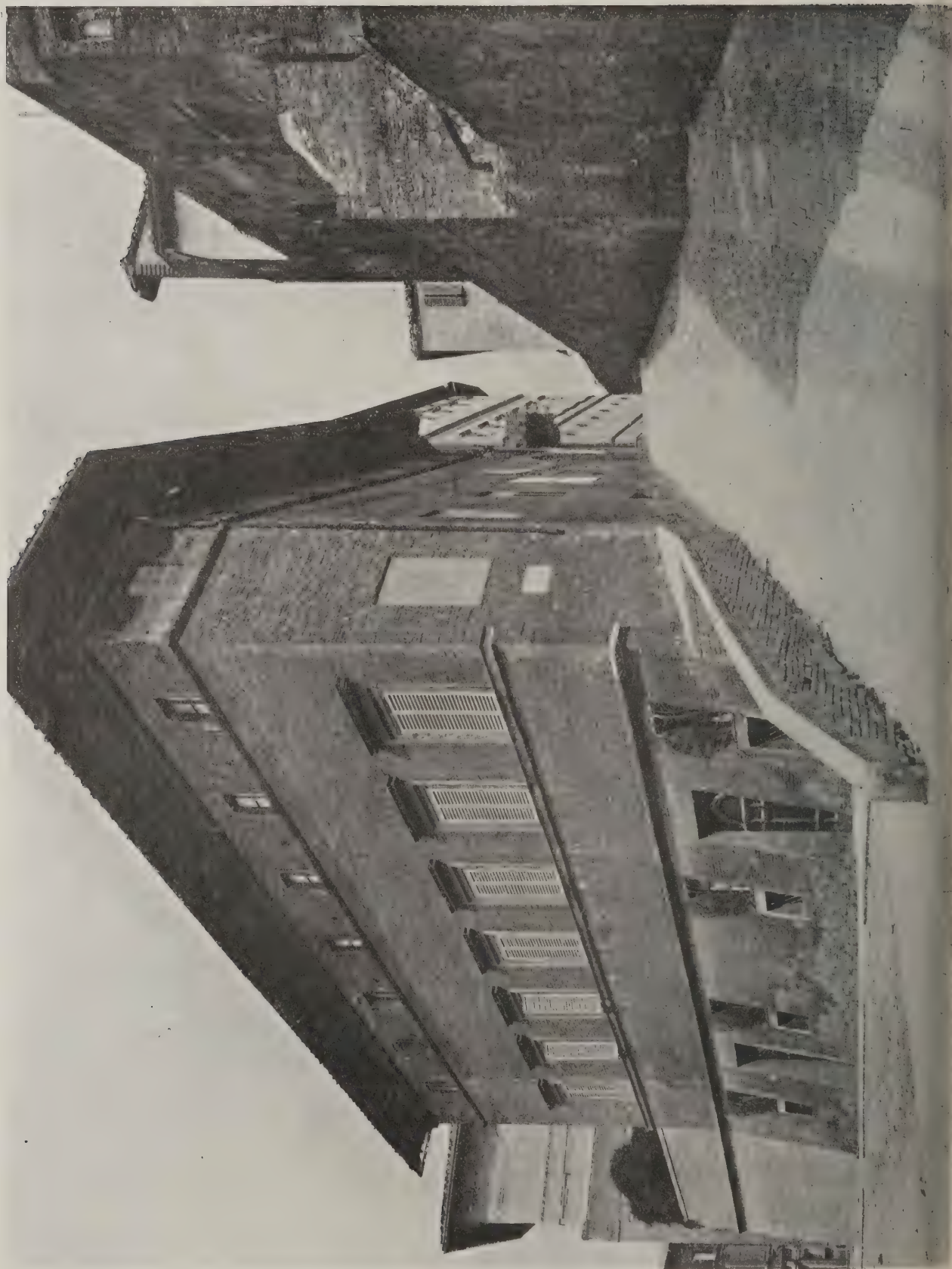
ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



THE QUADRANT AND PART OF REGENT STREET, LONDON.

(From the drawing, dated 1828, by Thomas H. Shepherd, engraved by W. Wallis.)

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THE ARCHITECTS' JOURNAL
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THE ARCHITECTS' JOURNAL

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Industrial Reconstruction and the Architect

now made manifest that, as we said at the outset, the constitution of the Council for the Building Industries is fundamentally wrong. Employer and employee being so equally matched, the presence of a moderating influence was necessary for the prevention of deadlock, and the refusal of the architects to rise to the occasion mocked the claim which enthusiasts had for the Council that it was "the Builders' Parliament."

It is not sufficiently representative to justify that comprehensive title. Although, to be sure, there have been whispers that a few modest architects renounce the claims of the charmed circle of the building industry, and outside it thus astutely is to abjure one's claim to the proud title of architect, whereof the primal significance should not be forgotten at the very moment when it is more clearly than ever before that honest work is the chief justification of existence.

It is not that the architect shirks or despises work of the kind to which he has been trained; at that he will toil hard. But he is afraid of losing caste by associating with either the manual workers or their employers. He is, in fact, that peculiar form of timidity subdued him to nonentity before the war made of him a man who has learned to mingle freely and gladly with his men of all grades. Consequently the architect is mortally afraid of soiling his clothes or of having his high-bloom rubbed off his exquisite manners is almost non-existent, and there is no excuse for him not to take an active share in the attempts to solve our problems of the largest and most important of the synthetic industries.

It is perfectly obvious why the architect's presence in the councils of the industry would be particularly valuable. It is not merely his sagacity that would be helpful; his even more effectual qualification is his neutrality; his disinterestedness being beyond the passion that naturally attaches to the respective profits of capital and labour. Then, besides and because of his neutrality, he would bring to debate the question of tone and an evenness of temper that would be any tendency toward ferocity that the disputants might happen to display. In the past the discussions between employers and employed have been only too often termed disputes, for they have been marked by bitterness and by a palpable love of conflict for its own sake. This cannot go on. As the Prime Minister said, in his Message to the Nation published on Monday, "It shall be the sublime duty of all, without thought of party, to help in building up the new world, where peace shall have its just reward and indolence alone shall be punished."

It is not that the architect is a coward and highly mischievous explosions of bad temper would be far less likely to occur in the presence of an architect than in his absence. If that were the result—an utterly absurd supposition—of the presence of the architect, it would be very well worth the effort and Conciliation Boards would establish a stronger claim for their names if architects were admitted to them. These Boards succeeded as often as they did in

settling disputes between capital and labour is marvellous considering that "six of one and half a dozen of the other" would be a fair description of the composition of the Board and the merits of the argument; and that ultimately the system broke down under exceptional stress is less surprising than that such a crudely constructed machine could be made to work at all.

What, then, could be expected of the Industrial Council?—which is but Conciliation Board writ large, and is charged with much wider and much vaguer issues than any with which its prototype could have been called upon to deal. What has now happened as the most conspicuous result of the Council's deliberations was easy to foresee—namely, a sharp and apparently an irreconcilable difference of opinion upon vital issues, followed by *ex-parte* protestations against the unreasonableness of the proposals put forward by the other side—which side does not matter. We are not taking sides, but are endeavouring to present the architectural view, for which can be claimed all the impartiality that complete detachment and a judicial habit of thought can secure. Regarded from this point of view, the portents are disheartening in the extreme. On the one hand we find an extraordinarily exaggerated statement of the case for labour—for that is what it comes to, in spite of its pretence of lofty principle—and on the other hand a vigorous reassertion of musty old dogmas—that the employer is a heaven-born captain of industry, that labour would perish if he did not benevolently consent to control it, and that his superior sagacity entitles him to take the toll which the workers are quite wrong in supposing to be excessive.

As the parodist has it, there is nothing that exceeds like excess. That, in the absence of any moderating force, each side should overstate its case thus flagrantly was inevitable. Extremes meet; and extravagant avowal was naturally met by caustic repartee. Ping-pong is a prettier game, and not more futile. But is it not utterly hopeless for the one side to clamour for the moon or the millennium, while the other side seems disposed to assert that industrial finality was reached when Noah built the ark under labour conditions that were entirely free from the mischievous interference of trade unions? Surely the answer is in the affirmative. It certainly cannot be intended that the workers shall confiscate the works and the capital, bidding the employer think himself lucky to be allowed to become a wage-earner in his own workshop, but that is the net impression one gets from the proposals of the extremists among industrial reformers, who are anxious to disclaim revolutionary tendencies. Nor can it be that the case for the employers is a mere *non possumus*—that the Whitley report and its reverberations are all in vain—that, in short, there is to be no sort of industrial reconstruction that would jeopardise the employer's profits, and that from his pre-war position he cannot legitimately be dislodged, and is resolved not to budge unless he is driven from it by brute force! No; surely there is a middle term, a *via media*, a half-way house, a bland yet effective solvent—call it what you will

—some means of equitable arrangement acceptable to both sides, some beatific method of preventing the industrial strife which may have been a comparatively harmless though frightfully expensive form of sport before the war had so wasted our substance as to bring us to the brink of bankruptcy, but which we can no longer afford. Nor can we afford to indulge in the "gibes and jeers and flouts and sneers" which before the war were common form in conducting an industrial controversy—or "dispute," as it was more aptly if less politely called. In the controversy on the Industrial Council's reports there is noticeable a very regrettable tendency to revive this obsolete style, to descend to *tu-quoque* personalities and other expedients that lower the tone of debate, falsify the issue, and by unnecessarily exasperating the other side provoke untoward retort, protracting and embittering the issue until both sides forsake the decencies of debate and become frankly quarrelsome. That is not the way to bring salvation to industry; and this can be said with the more confidence seeing that hitherto this catch-as-catch-can method has failed dismally as a means of conciliation, although it has succeeded very completely in making bad blood between the parties, and in complicating issues by the untimely exhibition of perversity and

ill-temper. This element of ill-temper, in which side has either monopoly or pre-eminence, was sible for the lockout threatened just before the war, swamping our internal disagreements, and them up as the paltry things they are—showing over, by the most convincing examples, the might in a good cause. If capital and labour will only to forgo the dear but dangerous delights of petty personal triumph in splenetic strife, of searching out with a single mind an equitable shall soon see a beneficent change in the relation employer and employed. Even at the Trade Congress there were very welcome symptoms of weariness, and one can almost be positive that the spirit of conciliation was seen peeping timidly at the door. He will be emboldened to cross the threshold when an architect takes him by the hand (for he can assume corporeal shape) and leads him to the seat as an honoured guest. For by-and-bye, long hence, the architect will not disdain to do a first-hand study of industrial economics, which he the better for his aid, as he the better for his more intimate view of things that matter.

J. F.

Notes and Comments

The British Association and Economic Re-arrangements.

ALWAYS the presidential address to the British Association for the Advancement of Science is expected to be topical; and this year's president, Sir Charles A. Parsons, accepted the precedent. Reconstruction, the one inevitable topic that is more pervasive than that of national housing, and is inclusive of it, was his chief theme, and, as an eminent engineer, Sir Charles was at home in it. "We are gathered together," he said, "at a time when, after a great upheaval, the elemental conditions of organisation of the world are still in flux, and we have to consider how to influence and mould the recrystallisation of these elements into the best forms and most economic rearrangements for the benefit of civilisation." Here be platitudes; but it is safe and commendable to be trite and cautious, especially when laying foundations or stating a case; and this clear but simple restatement of conditions that had become almost familiar enough to blunt their supreme importance, will serve an excellent purpose in stimulating the waning interest. Sir Arthur Evans, the retiring president—that great archaeologist who has so splendidly enriched our knowledge of ancient architecture that the R.I.B.A. saw fit to award him the greatest honour that is in its power to bestow, the Royal Gold Medal—said truly enough, in his valedictory speech, "that though formal peace had been proclaimed, at no time had the British Association had more urgent occasion to inculcate those scientific methods and ideas by which alone the country could hope to regain its equilibrium." Trite again; but, it would seem, a necessary reminder to an absent-minded country that will only listen—and then with the minimum of attention—to the voice of high authority. In so simple a proposition as "Wake up, England!" they would only listen when it came from the King, whose proclamation earnestly charging employers of labour to employ as many disabled men as they can makes an irresistible appeal to heart and conscience.

The Sources of Power.

Naturally Sir Charles addressed himself to the question of coal-supply, without, however, investing the subject with much fresh interest, and without conveying much hope that men of science are within sight—still less that they are within reach—of any considerable augmentation of the sources of mechanical power. It need not be stressed that builders of all denominations are, directly and indirectly, vastly and vitally interested in the question of coal-supply, which is fundamental to so many

needs of civilisation. Whether the shafting of a builder's shop is directly actuated by steam, or electricity or gas, is of little consequence to the issue; each case coal-getting is essential; and one is vain to the president's address for either help. He expressed the belief that this country must depend on coal for her heat and source of power. His sole word of comfort was that comprised in a proposal—an idea he introduced to the Association—to exploit the internal energy of the earth by shafting twelve miles deep. He cited the interesting lectures by Professor Frank Adams, of McGill University, Montreal, that in limestone a depth of fifty feet is practicable, while in granite a depth of thirty feet might be reached. What the results of this investigation of unexplored regions of the earth might be must be left to the imagination. One of them might be the discovery of an inexhaustible source of hot-water supply; Charles said, boreholes have been sunk at Larderello in Italy, which supply large volumes of high-pressure steam, which is being used for the generation of 10,000 horse-power by turbines; while at Solfatara, Naples, it is proposed to bore for the supply of power for the great works of the district. This, it may be argued, is possible only in volcanic regions, and is not a trouble the hot-water engineer in countries where, as we know, no depth of bore would result in hot wells. But the experiment might produce something undreamt of even by the most imaginative of the assembled at Bournemouth.

Winter Gardens and "Frozen Music."

Architects will have noted with interest the new trend that seems to be indicated by the announcement that Hackney Borough Council has passed unanimously a resolution to prepare a scheme for a winter garden for the borough. Hackney's unmelodious name may not be taken to indicate that its inhabitants are unmusical. They have, indeed, a philharmonic institution to maintain, and it would seem that they are determined to uphold it in the grand manner. The winter garden is to have for its primary object the advancement of musical education. What methods will be employed in pursuit of this object does not directly concern the architect, notwithstanding his alleged artistic "frozen music," but it will be his privilege to provide a suitable embodiment for the "soul of music" in the township that follows Hackney's excellent example, and the responsibility of providing exemplary results at the outset is commensurate with so large

ity. At the meeting at which Hackney Borough made its great resolve, much stress was laid on the probability of encouraging the performance of music. It may be inferred, therefore, that the programme of the park band will not be imitated in the garden, where if harmony is to reign the building of the music, will be beyond reproach. If, as we may assume, good music is the most effectual of influences, the design of the winter gardens will be of quality, and may eventually have a widespread beneficial effect in general design.

Architects' Fees for Housing Schemes.

On a later page we reproduce, by courtesy of the Board of Health, the official memorandum of the fees to be paid to architects and surveyors engaged on housing schemes. On comparing it with the B.A. scale, the new scale, which is the one in vogue between the R.I.B.A. and the Ministry, is found to show very few variations. The fees for outwork are considerably increased, for roads and drains they are reduced, while for housing there is a large range. As to the fees for quantities, the architectural quantity surveyors were naturally consulted; and the whole document is the result of long and patient consultation between the architects and the R.I.B.A., Mr. John W. Simpson having worked most strenuously and with great tact in the negotiations to a successful issue. The scheme has the approval of the Board of Agriculture, the Board of Health, and of the Scottish Board of Health, as well as the central Ministry of Health.

More About Devonshire House.

On a later page a characteristically interesting article on Devonshire House by Mr. E. Beresford Hope, M.A., who, as our foremost populariser of architecture, may be trusted to do complete justice to the architectural and historical associations of the famous mansion which apparently we are soon to lose. In the architectural features there is not very much to be seen, and the photographic view accompanying the article does not suggest that the loss will be over-grievous when the housebreaker does his worst. Upon Kent's ambitious essay in brickwork, the photograph does not show the gateways—the side gate with their urn-decorated piers, and the central gateway with its fine ironwork. Commenting on the subject, a London correspondent of the "Manchester Guardian" gives a useful list of the London mansions which in the past ten years have lost their original architectural features. These are—Stafford House, which Lord Sutherland bought it from the Duke of Sutherland and presented to the nation as a home for the London Museum; Crewe House, Curzon Street, destroyed to make room for an hotel; Montagu House, Whitehall, which the Duke of Buccleuch has abandoned; Harrington House, Craig's Court, Charing Cross, taken over by the War Office; and Harcourt House, Cavendish Square.

Mr. Edwin O. Sachs.

It is a great regret to announce the death, on September 10th, of Mr. Edwin O. Sachs, who was at one time a conspicuous contributor to this journal, mainly on the subject of fire protection. Educated at City College School, London, and at Charlottenburg, Berlin, and having travelled extensively in France, and Egypt, he began practice as an architect in London in 1892. His comprehensive knowledge of the methods of protecting buildings from fire had its beginnings in the attention he gave to fire construction. Chief among his many publications is his "Modern Opera-houses and Theatres". In 1898 he produced also his work on "Fire Construction," and he was the first in England to apply electrical power to the mechanism of the stage, his "Sachs system" becoming quite famous. He has written numerous monographs on fire prevention and fire subjects, and read many papers at meetings and

congresses at home and abroad. He was a director of the British Fire Prevention Committee, whose many tests of materials fill scores of little red monographs.

The Plates Described

Kynoch, Limited, Witton, Birmingham.

WE publish in this issue photographs and plans of some of the extensive alterations and additions to the munition factories of Kynoch, Limited.

These illustrations refer entirely to the head offices and works of the Company at Witton, Birmingham, but other works, including a complete chemical factory at Arklow, Ireland, have also been erected by the architects to the Company, Messrs. Buckland, Haywood, and Farmer, F.F.R.I.B.A.

The new gate-house at the main entrance, which is vigorous and interesting in design, contains a central hall for public inquiries, and on the diagonals, four rooms for the police control, searching, the weigh-bridge office, and the pay office. This gate-house is to be flanked on each side by lodges for patrol officers, and one lodge has already been erected. The buildings are grouped around a forecourt with garage and fire station on one side, and it is proposed some time in the future to rebuild the factories flanking the offices, thus completing the enclosure. The entrance buildings at Perry Barr have also been erected around a courtyard, one side of which is formed by the canteen, two sides by motor garage and stables, and the front completed with entrance lodges, gateways, etc.

The canteen, a spacious and well-equipped building, has sections for men and women respectively, with the kitchen arranged between. The tables and seating are specially designed for conversion into benches suitable for a hall in which concerts and entertainments can be given. The walls have a plinth of blue bricks above which they are treated with cement, and the lighting and ventilation arrangements leave nothing to be desired. Another of the illustrations shows one of the several important cartridge factories.

Proposed Cinema at East Sheen.

This cinema theatre, which is about to be built on a prominent site facing the Upper Richmond Road, East Sheen, near to the eastern boundary of Richmond, is the first of a series of similar buildings contemplated by the London and Suburban Cinemas, Ltd. It will have a seating capacity for nearly 1,400 persons. Designed primarily for cinema shows, the building is so arranged, however, that it can be used for concerts on Sundays. By hoisting the sliding rigid screen into a compartment above the roof, the concert-platform, capable of seating on rising tiers a chorus of 100 voices, is exposed to view. A self-contained social club on the first floor, over the entrance vestibule and offices, will consist of club-room, billiard and card rooms, and bar, having a separate entrance from the side street. An important feature will be the grand organ by Messrs. Willis and Sons, of Brixton, costing more than £6,000, with its two groups of heavy metal pipes placed in recesses on either side of the proscenium. In addition, there will be the concealed echo organ occupying a secret chamber, seventy-five feet away from the picture screen. The principal façade is of red brick and artificial Portland stone, having a tower at the angle sixty feet high. The pitched roof will be covered with rough boarding and "Poilite" tiles, and the flat roofs will be asphalted.

The decorative scheme for the theatre will be in ivory and old gold, with French blue hangings and upholstery, heated by means of low-pressure hot-water radiators placed in recesses, and ventilated by ducts and extract gratings in the roof.

Messrs. William E. Couch, A.R.I.B.A., and W. Vernon Coupland, of 82, Victoria Street, S.W., are the architects.

Architectural Causerie

ONE of the most valuable achievements of the past four years has been the completion of the development map of London, under the direction of Sir Aston Webb. Copies of the map, it is to be hoped, will shortly be in the possession of every local authority in the home counties. We hear in these times a good deal of talk concerning the need of "satellite towns" outside the metropolitan area but within easy reach of the heart of the city, and the recent decision of the London County Council to purchase the Panshanger estate, on the Great North Road, indicates the swing of the pendulum. The London Society's map allows for many such developments without limiting the legitimate expansion of any particular area, but in one particular it is insistent, namely, the preservation of old-time landmarks, rural charms, and agricultural belts. We architects are indebted to Professor Adshead for his pioneer labours in stating the case for the expansion of towns on regulated lines. He invented the phrase "satellite towns," and examined in detail all the outlying suburbs, made sketches of villages, houses, and scenery, and even trees of historical importance, in an endeavour to defend the immediate countryside from spoliation. It is a pity the term "town planning" was borrowed from America; "town development" would have been more euphonious, and had this title been selected, perhaps Mr. Voysey would not have been stirred to attack the important movement which has gained the sympathy and interest of the public.

* * * *

The sale of the estate at Welwyn to the London County Council cannot be said to be part of a definite scheme. It is more in the nature of an accident. Some time last year the noble owner decided to dispose of his interest in the land, and there was a public auction which was unsatisfactory. The matter was then allowed to drop for a few weeks, when the question of this site was brought to the notice of the Council; private negotiations ensued, the price was agreed upon, and finally the curtain was raised to enable the expectant citizens to feast their eyes on a most delectable part of Hertfordshire. There can be no doubt regarding the suitability of the site for developing an industrial and residential centre. The twenty-first mile-post of the Great Northern Railway marks one of its boundaries; it is adjacent to the North Road, two miles or so from Welwyn, six from St. Albans, three from Hatfield Palace, and seven from Hertford. There will be a good many new roads required on the estate, for the existing lanes are few and inadequate. Certain halls, farm-houses and cottages will be amazed one day to find their long sight checked by groups of unfamiliar roofs; no more will the roofs of the old barns resound to the voices of the harvesters, neither will Panshanger ale be included among the beverages of the district. Already, it is to be supposed, the draughting rooms of the "Architects' Department" over the water echo to the movement of T-squares and the unrolling of Whatman. Surveys of extreme accuracy are in course of preparation, levels have to be taken, existing buildings measured, leases and title deeds consulted, and much of the circumspection that exercised the compilers of Domesday Book will, it is hoped, again take place.

* * * *

Those to whom the task falls to direct the beginning of a new town on a specific site have work far more difficult than altering or adding to a town already in being. The absence of definite conventional features increases the difficulty, so much has to be taken into consideration, not only in regard to the conception and organic plotting of the new town, but more especially its relation as a "satellite" to neighbouring and larger centres, besides deciding its functional value to the whole system. Towns *ab initio* cannot be successfully

designed on the drawing board; they are the outcome of study combined with searching investigation. A preliminary survey gives acreage and levels, it mines existing facts, but it does not help materially towards brilliancy of conception. Such an undertaking demands the work of an accomplished town planner; there is the urgency of the problem, there is the financial side, the organisation of troublesome committees, the determination of the various sub-centres, the choice of industry likely to be attracted to such a place, the dormitory accommodation required by those who will undertake the daily journey to London.

* * * *

Now all these matters form items in the programme, but they are, without question, subordinate to the issue—preliminary conception. No one man, however capable, is in a position to settle the comfort and convenience of the future inhabitants of a town projected on a new site. It is essentially a matter for an expert committee, with this reservation—one or more preliminary ideas should first be obtained from expert designers who have made the subject of towns their life-work before any definite action is taken. Such preliminary ideas could be in the nature of a limited competition with adequate rewards for plans submitted. The competitors should spend weeks on the ground, augmenting their studies of the Ordnance Survey by noting natural features and salient points. Some would devote their investigations to a study of local architectural characteristics. They would be alive to the fact that Hertfordshire has a building tradition worthy of emulation; they would note the very English features of the existing towns, and, influenced by the need of preserving pictorial charms, would project their schemes into existing rural scenes without hurting the picture as a whole.

* * * *

The foregoing embraces the whole theory of town planning, in so far as it affects the design of new towns. To some extent the theory was followed at Letchworth, and has been partially observed at Hampstead and other places. Recently the Architectural Association students undertaking a summer course were given the task of planning the lands of Hampstead Heath and Parliament Hill as a site upon which to plan a hypothetical town. They were taught with marked success to allow the natural configuration of the site to influence their plans. Before the students schemed their plans they were conducted over the land; the importance of the picture as it existed was indicated to them, together with the points which naturally determined important centres. When the finished designs came to be criticised, the display of imagination and ingenuity of the plan formations provided an entertaining series, which were both pleasant and instructive.

* * * *

After all, town development is merely a question of common sense; but it is, notwithstanding its practical aspect, solely a matter for the artist. No mere practicality in building materials need attempt to plan a successful town, neither is it conceivable that a lay committee, however well intentioned, can predetermine a new town other than to say "It shall be," and give orders for the starting of the machinery. The making of a town belongs to the higher sphere of things; it calls for a master intellect. No official department, however well equipped, can hope to achieve success in this connection, unless the preliminary view of the scheme is the right one, and this demands the unerring instinct of an artist accustomed to such things.

* * * *

In the foregoing gossip I have said nothing of the intentioned or biased, my contention being that the work, however brilliant, is merely a means to an end. What follows is also purely impersonal and unprejudiced. The question of the moment concerns the procedure



KYNOCH, LTD., WITTON, BIRMINGHAM: CANTEEN AND PERRY BARR ENTRANCE; THE POWER HOUSE,
AND A BAY OF THE CANTEEN.

BUCKLAND, HAYWOOD AND FARMER. FF.R.I.B.A., ARCHITECTS.

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don County Council. Has it been decided to leave the whole affair to the care of the superintendent architect and his subordinates? If so, will the scheme be submitted to a committee of impartial experts for criticism and analysis? Have we taken to inaugurate a limited or public competition to obtain the best design? These questions are more pertinent in view of the lack of instinctive spirit in the creation of recent villages and centres undertaken by various official bodies.

* * * *

We all agreed that the housing problem deserves attention, I am tempted to write direct, action, but

none of us wish for a repetition of the mistakes made during the past decade, when London found its way into the country unchecked and uncontrolled. The new town of Panshanger must be the best that the brains and artistic ability of English architects can provide. It should be a place of delight for Londoners, whose souls yearn for the country. Let it not be a disgrace to St. Albans, Hatfield, Hertford, or Ware, or a mere excrescence of bricks and roughcast defiling the upper reaches of the Lea. Shades of Bacon, Lamb, and Clutterbuck defend the pastoral fields from the abomination of tessellation!

AERO.

Devonshire House

By E. BERESFORD CHANCELLOR, M.A., F.R.HIST.S.

architecturally, at least from its associations and traditions, Devonshire House is one of the most private palaces of London, and with its something more than a mere landmark disfigures our midst. No more pregnant sign of the old world well be selected as an object lesson in those which have come over the life of the country. The fact that a domicile once regarded as a place of refuge should be sharing in the fate which has, perverted, so many stately homes in city and country alike. It is, indeed, a curious fact that what was a place of refuge in France a little over a century ago is to-day being effected by a revolution, which is indeed, yet as drastic and as far-reaching as the French Revolution, which upset a throne and sent the nobility of a country wandering in alien lands.

The Home of Whiggism.

This splendid mansion which has for nearly two hundred years been a landmark in Piccadilly stands for generations beyond the possession of a great family, it is a Whiggism *in excelsis*; and as the kernel, so the seed, is dead, so the nut may, I suppose, be thrown away, regarded, if not unwept. But Devonshire House, as for so long been a dominating feature in the city, that the most callous of iconoclasts will regret its disappearance without some stirring of memories and some regret for the passing of so much evidence of a day that is gone.

Annals of the Mansion.

It will not, under these circumstances, be idle or uninteresting to recall something of the annals of the mansion, or of those of its predecessor. Originally the ground on which it stands was occupied by Hay Hill Farm (the neighbouring Hay Hill commemorates it). Some years after the Restoration, however, Lord Berkeley of Stratton, seeking a spot on which to erect a town house, selected this position, with the result that Berkeley House, designed by Hugh May, was begun here about 1665 or earlier, at a cost, according to Evelyn, of "nearly £30,000." That the place was in an advanced state in the following year is proved by Evelyn specifically mentioning visiting Lord Berkeley here in the spring of that year; but it was not probably finished for some time after that, for the Diarist, in the autumn of 1672, speaks of dining at Lord Berkeley's "new house, or rather palace," and has left his well-known description of the place in his diary for September 25th. Hutton, in his "New View of London" (1708) tells us that "the house is built of brick, adorned with stone pilasters, and an entablature and pitched pediment, all of the Corinthian order, under which is a figure of Britannia carved in stone." The description he gives is a long one, but a better idea of what old Berkeley House looked like can be gained from a water-colour drawing of it preserved in the Grace Collection, and dated 1730. In those days the grounds covered not only the present garden, but also the whole of



Photo: J. Russell & Sons.

DEVONSHIRE HOUSE, PICCADILLY, LONDON. WILLIAM KENT, ARCHITECT. (PORTICO ADDED BY SMIRKE.)

Berkeley Square and the adjacent streets. Even then the speculative builder had his eye on the place, and some years after Lord Berkeley's death, in 1678, his widow disposed of the outlying grounds at a price that staggered Evelyn (who never ceases to bemoan that "that sweete place should be so much straightened") "advancing neere £1,000 per ann. in mere ground rents," he remarks, adding, "to such a mad intemperance was the age come of building about a citty!" In Narcissus Luttrell's Diary there is a curious entry which runs as follows: "Jan. 14, 1692. Last night a fire happened at Berkeley House, Piccadilly, which burnt down the same with several goods of the Duke of Bolton who lived there." I find no confirmation of this elsewhere, and one wonders if the usually accurate Luttrell was nodding; this seems the more probable because it is known that in the following April the Princess Anne (afterwards Queen Anne) took the place for three years at a rent of £600. Here she remained till 1696, when her reconciliation with her brother-in-law, William III., resulted in her having St. James's Palace offered her as a residence, an offer she accepted. In the following year the first Duke of Devonshire purchased Berkeley House after some initial difficulties, owing to the fact that Lord Normanby, who had also been in treaty for the property, considered he had purchased it. The matter was carried to Chancery, and after many protracted hearings and negotiations the Duke was adjudged the buyer.

"The Little Dutchman."

No sooner was the Duke installed than he began those hospitalities for which Devonshire House has been famous for the better part of two centuries; his first illustrious guest being no less a person than the "Little Dutchman" himself, who dined here on March 31st. Another notable guest was Count Tallard, the French Ambassador, and indeed Berkeley House seems to have been a centre of fashion until the death of the first Duke on August 18th, 1707. His son, the second Duke, lived here till his death in 1729, when the place descended to the third Duke, during whose ownership the disastrous fire occurred, when, in spite of every effort on the part of a body of the Guards under the Earl of Albemarle, and the exhortations of Frederick, Prince of Wales, who watched their endeavours, the building was entirely destroyed, only certain of the pictures, books, and furniture being saved. The loss was estimated at £30,000. Of course, Laguerre's staircase paintings were destroyed; but a curious picture by Vander Vart, representing a violin painted on one of the doors, of a quite remarkable realism, was got safely away, and is now at Chatsworth.

Kent's Douceur.

Immediately after this catastrophe, which happened on October 16th, 1733, the Duke set about the erection of the present mansion. For this purpose he selected the then fashionable architect, William Kent, who received £1,000 for his plans; the entire work costing about twenty times that sum. Its exterior does not add to Kent's reputation, but inside he was able to give play to his love of the *rococo*, and in the reception rooms and the saloon in particular, in which not only the decorations, but also the furniture and fittings were designed by him, he has produced as complete an example of the Italian style as is to be found in this country. Kent could not help being heavy in hand, and his achievements appear even more so when regarded in juxtaposition to the airy graces of the Adams and the delicate work of Chippendale and Hepplewhite; but there is a sort of massive dignity about even his most voluminous scroll-work, which with adequate space for its exhibition is not always displeasing and is often extremely effective. The Devonshire House produced by Kent is not altogether the mansion that we know to-day. In the first place the exterior double flight of steps on the Piccadilly front has been removed, then on the garden

side a large bay enclosing the circular staircase been added, and much alteration and reconstruction been done by Wyatt, Decimus Burton, and others. When first completed it aroused the scorn of those who it must be remembered, however, was a bitter experience to most of London's buildings, and who said that "it is spacious and so are the East India Company's warehouses, and both are equally deserving of praise."

Kent's Furniture Designs.

It is impossible to speak with any particularity of the magnificence of the contents of Devonshire House, splendid furniture, much being as I have said, Kent's designs, but much also coming from the delicate hands of the great French artificers and bearing the imprint of the genius (for it was little less) of Gonthière and Reisner, and the rest.

Masterpieces in the Gallery.

The pictures, too, include some glorious masterpieces, for instance Veronese's "Adoration of the Magi," which Waagen considered one of the painter's finest productions; "The Guitar and Flute Players," by Caravaggio, and Nicholas Poussin's exquisite "Shepherds in Arcadia." Two canvases that stand specially out claiming attention, are "The Holy Family" by Rubens, and the consummate Jordaens, representing Frederick of Orange, and his wife. There is also a notable portrait of a young man, ascribed in recent years to Titian, and in the Red Drawing Room, a portrait of a young girl, originally given to Velasquez, but now, on the unquestionable authority, proved to be by the painter's son-in-law Mazo, whose ability in copying the style of the supreme masters was almost uncanny. One only need refer to other notable works of art such as the two Rembrandts; the portrait of "Pope Innocent" attributable to Velasquez; the delightful portrait of the little daughter by Cornelius de Vos, and a host of other examples, all dealt with so adequately by Mr. Arthur Strong in his "Masterpieces in the Devonshire's Collection."

Decoration.

Apart from such treasures, Devonshire House is full of exquisite decorative work, and, as I have said, of beautiful furniture of various periods from the sixteenth century in Venice and the France of the *ancien régime* to that of the nineteenth century in the Empire. Many valuables that were once here have gone to Chatsworth, others, including the famous Kemble collection of plays, have been sold; but, as it was handed over to alien uses, few great London houses contained such a splendid assemblage of works of art.

The Gates.

For many years the Piccadilly front was hidden behind a blank wall only relieved by two plain entrances. In 1897 the fine gates which enable the wanderer to enter Piccadilly to catch a glimpse of the mansion were removed from Chiswick, and placed in their present position. On them may be seen the well-known coat of arms of the Cavendish family with their punning motto "Cavendo Tutus." Not always, however, did they bear these arms, for they originally carried the crest of the Percevals, and adorned the residence of the sixth Lord Egmont at Turnham Green. This residence became the home of Lord Heathfield, the well-known governor of Gibraltar, whose portrait by Reynolds is now in the National Gallery. On his death his Turnham Green house fell into neglect, and when, in 1838, it was demolished, the gates were purchased by the sixth Duke of Devonshire, and set up at the entrance of Chiswick House. It is to be hoped that if, or when, I suppose, the House is demolished, they will be re-erected somewhere in the princely domain of Derbyshire, which is as closely associated with the Cavendishes as is the great mansion whose passing is so much to be deplored.



DOCH, LTD., WITTON, BIRMINGHAM: ONE OF THE POLICE LODGES TO PRINCIPAL ENTRANCE. PERRY BARR
ENTRANCE. MILITARY FACTORY NO. 4. BUCKLAND, HAYWOOD AND FARMER, FF.R.I.B.A., ARCHITECTS.

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The Relation of Steel Framing to Architectural Design*

Earlier days structural and architectural design were not so closely related that they could not be considered separately. It was not until by experiment by the use and combination of various materials the gradual increase of ornament to conceal the structural features that it became at all possible to put structural design in a secondary position. The introduction of the steel frame or skeleton into building construction requiring comparatively little room for itself has made it possible to postpone the consideration of architectural design to a relatively late period in the preparation of plans, and has tended towards specialization that to a very large degree the structural engineer is not an architect, and the architect need not have more than general knowledge of the requirements of architectural design. It follows naturally that the best results will be obtained by co-operation of specialists in both branches; but the way in which many projects are shaped themselves makes it impossible to secure the best conditions, and the structural engineer is often confronted with problems that tax his ingenuity to the limit, and, if solved, may leave much to be desired, if anything were known.

Present-day prices for building work demand, as before, the reduction of all costs to a minimum consistent with the results to be obtained. It might seem that in a building, the several items of which were designed at a minimum cost for its special field of use, would be the cheapest to construct. It would be so if the building were appreciated, however, that a building of itself involving large heat losses, even though cheap in itself, is not necessarily economical, and it is true that the design of a steel frame, using the fewest possible pounds of steel, may not result in the best or most satisfactory building. Competitive bidding for steelwork, that is, the attempt to reduce the cost of steel from a preliminary design, regardless of other considerations, is often a doubtful economy, especially if the original designer is not consulted as to the best conditions.

Time is also one that should be given consideration. Ordinary everyday problems usually require only sufficient time to guard against the mistakes that are always incidental to haste. If the problem is more complex and the time too short, it follows that the first passable solution must be used, although it may be unsatisfactory to the designer. Lack of time often leads to a careless consideration of the relation of steel design to other parts of construction often fails to secure the benefit of the experience of the engineer. It follows, therefore, that the actual steel design be made at one time, and another, it must not be overlooked at any point in the development of the architectural scheme, and that when the steel plans are undertaken the better the results are likely to be.

It is only necessary to note that the erection of steel should follow immediately the completion of the architectural plans to indicate the relative position of steel and other details. Commercial considerations often overlook the position it deserves.

The structural engineer would lose much of the joy of his work if he could have his way in defining fast rules for our subject, and we should also lose much of architectural effect if the architect were handicapped with a sixth sense that would prevent him from asking the impossible of the designer. It is true that the experienced designer recognises at a certain limiting conditions in the average project that cannot well be overcome, yet he is often held back by recognised limitations of economy to a greater degree. Very often the limiting conditions for the use of girders or trusses will not permit of any other solution to economy, and it is here that the necessity

for co-operation is most evident. Unfortunately many times conditions have been so fixed before the engineer has been consulted that it is well-nigh impossible to make any change without serious embarrassment to someone, and the real problem of the designer is to determine how far he may go from the beaten path that others have followed and not invite disaster. It will be found, however, that the majority of failures which might be hastily assumed to come under this head have been due, for the most part to overlooking or disregarding some of the seemingly less important features of design or detail.

Architectural conditions often invite eccentric loading of columns, or connections that should be avoided or overcome by suitable design or detail. Too frequent splicing of columns to secure an apparent saving of weight are frequent errors of the inexperienced. The use of material not readily obtainable may be a source of vexatious and expensive delay. Zee bar columns, for instance, were for a long time in common use, but for one reason or another have fallen into disfavour, and should not be used under any ordinary conditions, and not at all until the possibility of securing them has been determined. Tradition has apparently fixed in some offices the size of material to be used for certain minor details, as lintels and the like, without much regard to actual needs—not a serious matter, perhaps, when steel is cheap, but well worth saving at any time.

Economical steel design can be obtained only when the designer is in possession of all the data relating to loads and limiting conditions connected with his problem. Frequently some of these items are lacking, and he must either play safe or wait.

If a building is obviously of a type that must require wind bracing, it should be carefully considered in relation to architectural details, and if the problem is at all difficult, the best advice obtainable is the cheapest. Probably no single feature of design invites more discussion than wind bracing, and the designer is usually fortunate if the Building Code provides definitely for requirements that are evidently safe.

Foundations are, of course, closely related to steel design, and the determination of maximum loads is usually a part of the design in which the question of wind bracing may be a considerable item if the building be high and relatively narrow.

The increasing use of Bethlehem or other beams with wide flanges often results in a conflict between structural details and the best conditions for installation of plumbing or other piping. The steel designer, and if he does not, the steel fabricator, will prefer to have all beams frame on centre lines of columns where at all possible. The reasons are, of course, obvious, but it may be desirable to place the beam a little to one side of centre for convenience of the plumber, or to avoid a plaster beam in the finished ceiling where it would be unwelcome. How much eccentric loading is permissible, or how its effects can best be overcome, is one of the things frequently passed over lightly. Nothing but the additional factor of safety involved in the loading used has prevented much unpleasantness from this cause. Much of the difficulty from this condition could be avoided if taken in time, and it is probable that steel designers have been at fault in accepting this condition as inevitable instead of avoidable.

It may seem that much of what has been said is merely a plea for larger use of the steel specialist. Probably this should be done, but if done efficiently would in time eliminate many of the things that we now do from force of habit, or that we copy as a new idea from whatever source it comes to us. There should be a more careful study of the right relations for economical construction for all trades, so that the plumber or the steamfitter may accomplish his work with a minimum and not a maximum of fittings. There is probably more

* This is from an article contributed to the "Architectural Forum" for May, 1919, by Mr. E. N. Pike.

to be gained in this line of endeavour at the present time than one realises, and in the survival of the fittest that these times will surely bring only those may hope to live who can demonstrate that they accomplish the utmost of satisfactory result at minimum cost.

There is, perhaps, a type of industrial building where the engineer, and not the architect, has been too much in evidence and where the matter-of-fact engineer has felt able to undertake work that did not rightfully belong to him. Much of the ugliness of this class of building may be avoided, at little or no increased cost, if right relations between architectural and structural

design are considered instead of concentrating so much on mere utility.

It may be asked, whether the architect should be the preparation of his own steel plans. The answer should be, that if the amount of work handled by the office will justify the employment of an experienced designer, one who can intelligently and sympathetically work with him, the best results will be attained. Otherwise it will be wiser to retain, as required, the services of the best talent available, giving the structural designer full opportunity and information that will make his service as helpful as possible.

A Secret of Bad Building

A CORRESPONDENT of "The Times" says:—"Anyone who has been engaged in drawing and measuring a mansion, say of the seventeenth or eighteenth century, must have been struck by the opulent scale and proportion of its details as compared with the most costly building of the same class erected in the present day. Yet the difference may be traced rather to a system than to any conscious intention on the part of architects, builders, and clients. In a word, the present-day building is erected 'by contract'; the seventeenth-century building was not."

"Where first the idea took possession of the mind of the building owner that he must know the exact cost of his building in advance and obtain a legal contract for the carrying out of it for a specified sum, the building contractor, of course, for the protection of his own pocket, must know exactly what amount of each material used in the building he had to supply; hence arose the operation called 'taking out the quantities.' In the first instance this quantity-taking was done by the builder at his own cost, as a means of self-protection. But the time came when the builders, as a class, rebelled against this tax on their time, and required the 'quantities' to be supplied to them at the cost of the building owner. Hence arose the separate profession of the 'Quantity Surveyor.' Now on top of all this comes the desire of the building owner to get his building as cheap as possible; so the quantities are supplied to a selected number of builders, who are invited to state respectively for what sum they will carry out the building, and (unless there has been a special

caveat—'the lowest tender not necessarily accepted') the one who will do it cheapest is selected, with the result sometimes that the selected builder leaves him a narrow margin for profit as to be under a strong temptation to scamp the workmanship in some not too obvious to the eagle eye of the architect."

"Thus architecture, which should be a great noble art for the embellishment and pride of cities, carried out with that object pre-eminently, is reduced to a kind of business of getting a presentable result at the least possible cost, and in general, it may be said, in the shortest possible time, for in too many cases town architecture (especially) a new building regarded by its promoters not as architecture but simply as 'property'; on which money has been expended, and which must be hurriedly sold in order to make money returns out of it as early as possible. An essentially commercial generation may argue that this is the only logical, reasonable, business-like method of procedure. It may be so in business, but it is not architecture. Not on this system will arise such a civic architecture as will be a credit and a joy to the people. No great architecture has ever been or ever will be produced on the basis of building as fast and as cheaply as possible."

[With much of this, many builders and most architects will be in complete agreement; but, as we have pointed out, it has compelled us to hold over, the unduly heavy loadings used in the seventeenth and eighteenth centuries were consequent on a very rudimentary knowledge of stresses.—EDS. A.J.]



GATEHOUSE AT THE MAIN ENTRANCE TO KYNOCH, LTD., WITTON, BIRMINGHAM. VIEW FROM ENTRANCE COURTYARD.
BUCKLAND, HAYWOOD AND FARMER, FF.R.I.B.A., ARCHITECTS.

Why Timber Costs More

[SPECIALLY CONTRIBUTED BY AN EXPERT.]

Architects the facts most prominent in connection with timber are prohibitive cost and uncertain quality. In a general way these facts are attributed to the stress of the last five years. Certainly, the causes of the continued high prices and relative scarcity are not as widely known as they should be, nor the best way of dealing with the situation from the architects' standpoint.

The timber trade before the war was no more a philanthropic institution than other branches of commerce. In 1914, and 1916, in spite of somewhat diminished imports, the timber trade did well, but in 1917 the whole position was changed. To begin with, the enemy for a time declared timber contraband, and in consequence shipments from Sweden were stopped. This decision was afterwards modified, but "unrestricted" submarine warfare had been started, and to meet this it was necessary for imports to be regulated. Imports of timber had to be cut down very drastically indeed, and home supplies were depleted. This involved close Government control.

Permits had to be obtained for the purchase of imported timber in any quantity. As the war proceeded the timber trade grew more stringent and stocks became smaller and more expensive. At the date of the armistice the entire importation of timber of almost all kinds was being effected on account of the Government directly or indirectly, and soft woods were being rationed under a system of rationing to the timber trade. Home-grown timber had been brought under permit. Maximum prices had been laid down for almost all kinds of timber, and, as usual, these had mostly proved in practice to be maximum prices as well.

Immediately after the armistice there began a cry for the removal of Government control from trade, and in this respect the timber trade was no exception. It was argued that new timber could be imported and sold below the Government prices if permission were given, and on the face of things this seemed likely enough. Government prices were flat rates based presumably on the cost of production. The Timber Controller relaxed the regulations—beginning with the cumbersome permit system—and at the end of March last all restriction had been removed. This was followed by a temporary fall in prices, and then a sharp rise, marked by keen competition for freight, since when prices have maintained a high level.

It is important to notice that some action had been taken by the Government to safeguard the position. Before control was removed, large purchases were made for forward delivery, amounting to about 100,000 standards in Scandinavia and

500,000 standards in Canada, the United States of America, and elsewhere. The Scandinavian purchases for the most part have already been disposed of at cost price to the timber trade, who have been helped to secure freight on reasonable terms. The Swedish goods are mainly building timber, although the American purchases are understood to include a lot of railway sleepers. In addition, the stocks held by the Government are being disposed of to the timber trade at about the same prices as under the control.

The ambitious housing programmes forecasted last winter are taking a long time to materialise and, meanwhile, timber is being imported. All the same, the dominant fact to be recognised is the world shortage in the supply of timber, owing to the intermissions in production caused by the war. Russia, for instance, previously a most important source of supply, is for the time being almost out of the picture. In Canada the war greatly affected the lumber industry. In Sweden uncertainty as to the future spelt reduced production. The consequence of all this is that prices are kept up, and supplies on hand are far from ideal in quantity and quality.

How is the architect to act in these circumstances? First of all he should set his face against the payment of prices greatly in excess of those maximum prices which were revoked at the end of March, so far as ordinary specifications are concerned. The Timber Supply Department of the Board of Trade is still in existence, engaged in winding-up, and some help might be obtained in cases of difficulty by applying there as well as to the Ministry of Health. Secondly, the architect must not be too particular as to the specification, provided it is good enough. Preliminary enquiries as to the timber locally available might obviate many troubles at a later stage. In spite of high prices, some houses are being built by men who have been wise enough to keep their eyes open to pick up likely parcels of timber.

A word, in conclusion, as to home-grown timber. When properly sawn and seasoned, it will often compare most favourably with the imported article, and it is still far cheaper. During the war many imported timber merchants entered the home-grown timber trade, and some have stocks on hand for disposal at moderate prices. Larch, especially, has many uses, and the hardwoods, such as elm, are not to be neglected. A conference was held recently in Glasgow to consider the uses of home-grown timber, and, as a result, it was decided to ask the Duke of Buccleuch to act as chairman of a small committee to carry the matter further. Development in the direction of grading may therefore be hoped for.



Interior of Canteen.



Interior of Gatehouse at Main Entrance.

KYNOCH, LTD., WITTON, BIRMINGHAM. BUCKLAND, HAYWOOD AND FARMER, FF.R.I.B.A., ARCHITECTS.

An Analysis of Pre-War and Post-War Prices for Building Work

By LIEUT.-COL. T. E. COLEMAN, R.E. SERVICES.

(Concluded from No. 1288, page 333.)

IN many branches of manufacture it has been conclusively shown that by improved working conditions and scientific management it is possible to secure reduced labour costs with fewer working hours, larger output, and higher wages.

The increased efficiency and economy of production which has been obtained in many large American factories by Dr. F. W. Taylor, Mr. F. B. Gilbreth, and others by careful and systematic investigation of labour methods, combined with scientific business management, are well known. Similar economies could probably be made by energetic and far-sighted builders and contractors in this country if the necessary study and investigation of existing working methods were given to the subject.

Dr. F. W. Taylor, Past-President of the American Society of Mechanical Engineers, in his well-known work, "The Principles of Scientific Management" (Harper Bros., New York) thoroughly discusses the subject of efficiency in labour organisation and work production.

Within recent years the pernicious system of deliberately working slowly has developed to a larger extent, so that systematic underworking—variously known as "soldiering," the "union stroke," or going "ca' canny"—is now advocated by many workmen. The theory that the less a man does the more men must be employed has far-reaching consequences. The ultimate effect is to restrict the demand for labour, owing to the high cost of production.

The whole aim of scientific management is, not to pay low rates of wages, but to pay high wages, improve the working conditions, and enlist the direct interest of the workman to use his best efforts whilst at work. There are plenty of workmen who are willing to work quickly and efficiently if by so doing they can secure a higher rate of wages than they would otherwise obtain, and if assured that this additional bonus beyond the average scale of wages is permanent.

A typical illustration, showing how reduced labour costs can be effected in the most unlikely directions by scientific management, can be seen in a consideration of the substantial economy produced by improved methods in such simple routine work as shovelling iron ore, coal slack, ashes, etc. About 600 labourers and shovellers were employed in this particular form of labour at the Bethlehem Works, U.S.A., when Dr. Taylor was called in to suggest improved work methods generally. This expert organiser made numerous experiments to ascertain the exact shovel load which would produce the largest output per day with the least physical exertion for the workman. A shovel load of about 21 lb. was found to give the most satisfactory results. This necessitated a large shovel for ashes, a small one for iron ore, and varying sizes and patterns for other materials. Instead of each labourer providing his own shovel, the company provided a store containing shovels of varying sizes and shapes to suit the different materials, and these were issued to the labourers for use in the particular class of work allotted to them. The shovellers were specially trained for their

duties, and each given a carefully measured quantity of work for each day. In return for the satisfactory performance of the daily task, the men received an increase of 60 per cent. above the normal rate of wages, or 1 dol. 85 c. instead of 1 dol. 15c. per day. Under the new conditions, the labour cost of iron ore-shovelling was executed at 3.2 cents per ton.

An interesting commentary on the advantages which accrue to the workmen themselves from carefully considered scientific organisation is also afforded by this example. A Pittsburg steel company, hearing that the cost of iron ore shovelling at Bethlehem was being executed at 3.2 cents per ton, offered these men an increase of 50 per cent., or 4.9 cents per ton, to carry out precisely the same work at Pittsburg, i.e., to unload the same description of ore from similar trucks and with the same type of shovel. Nearly all the men accepted the terms, but within six weeks practically the whole of them returned to Bethlehem to resume their former job at the old rate of 3.2 cents per ton. The only reason given for returning was that, under the more highly organised system at Bethlehem these men were able to earn higher wages at 3.2 cents. per ton than they could when paid 4.9 cents. per ton for the same work at Pittsburg.

It is generally believed that from constant practice the experienced artisan ascertains for himself how to apply his strength and skill to the best advantage. Taylor, however, proved that this was not so, and that even in the elementary operation of handling and carrying pig iron for blast furnaces by labourers, it was possible by the scientific control and management of the men for them to perform more than three times the previous amount of work without any additional fatigue or expenditure of muscular energy.

By systematically educating and directing the men in their work, and paying them a bonus on completing a definite amount of work each day, each man handled more than three times as much pig iron in the same time and earned about twice as much as under the old conditions.

That economy of labour in building can be obtained by improved working conditions and scientific management has been practically demonstrated in the United States in the case of bricklayers' work. Apparently, no trade had become more standardised in its methods, or offered less scope for improvement, than bricklaying. Year after year bricks had been laid in the same old way, with the same description of tools or plant, and without alteration of any sort.

Some years ago, however, Mr. F. B. Gilbreth, a member of the American Society of Mechanical Engineers, became interested in the subject. After a careful study of the various movements made by a bricklayer, he was able to make such improvements in building methods that a considerably larger quantity of brick-work per day was obtained. He analysed each action of the bricklayer, eventually eliminating all unnecessary movement and substituting fast for slow movements when possible in the process of bricklaying. The bricks, mortar, etc., were placed on a raised platform, so that the materials could at all times be easily reached and handled

by each bricklayer. This omission of redundant movements of stooping for bricks and mortar in itself produced considerably increased output, combined with greater comfort and less effort on the part of the workman. Improvements in many other small details were also made. The bricks, when placed on the platform, were carefully sorted by a labourer, arranged with their best face upwards, as to save the bricklayer trouble in turning and handling the bricks. Mr. Gilbreth also designed a deep mortar box in the place of the old wasteful mortar board, with its large surface and holding a thin layer of mortar. Another alteration in ordinary working methods was made by substituting a two-wheeled barrow for the modified hand-cart for the usual one-wheeled barrow. By this means the bricks could be removed at each joint instead of sixty under the old system. It also found that the movement of the trowel in tapping each brick with the trowel handle was unnecessary, and could be done away with by using a smoother of proper consistency or temper, the bricks being readily bedded by a simple motion of the hand whilst laying them. He also devised a method for recording the number of bricks laid by each bricklayer. Each man, thoroughly trained in the new system, received a generous bonus over and above the ordinary rates of wages was paid him for a certain quantity of brick-work—representing a fair day's work—were executed. In one factory wall it was found that an efficient man could lay 350 bricks per day as against 120 bricks per day under the old system. This quantity seemed incredible when compared with the quantity of bricks laid per day by bricklayers in this country. By way of comparison, it is stated by Dr. Taylor that in one foreign city the bricklayers' union restricted their members to 375 bricks per day when working for private owners, and 275 bricks per day when working for city authorities.

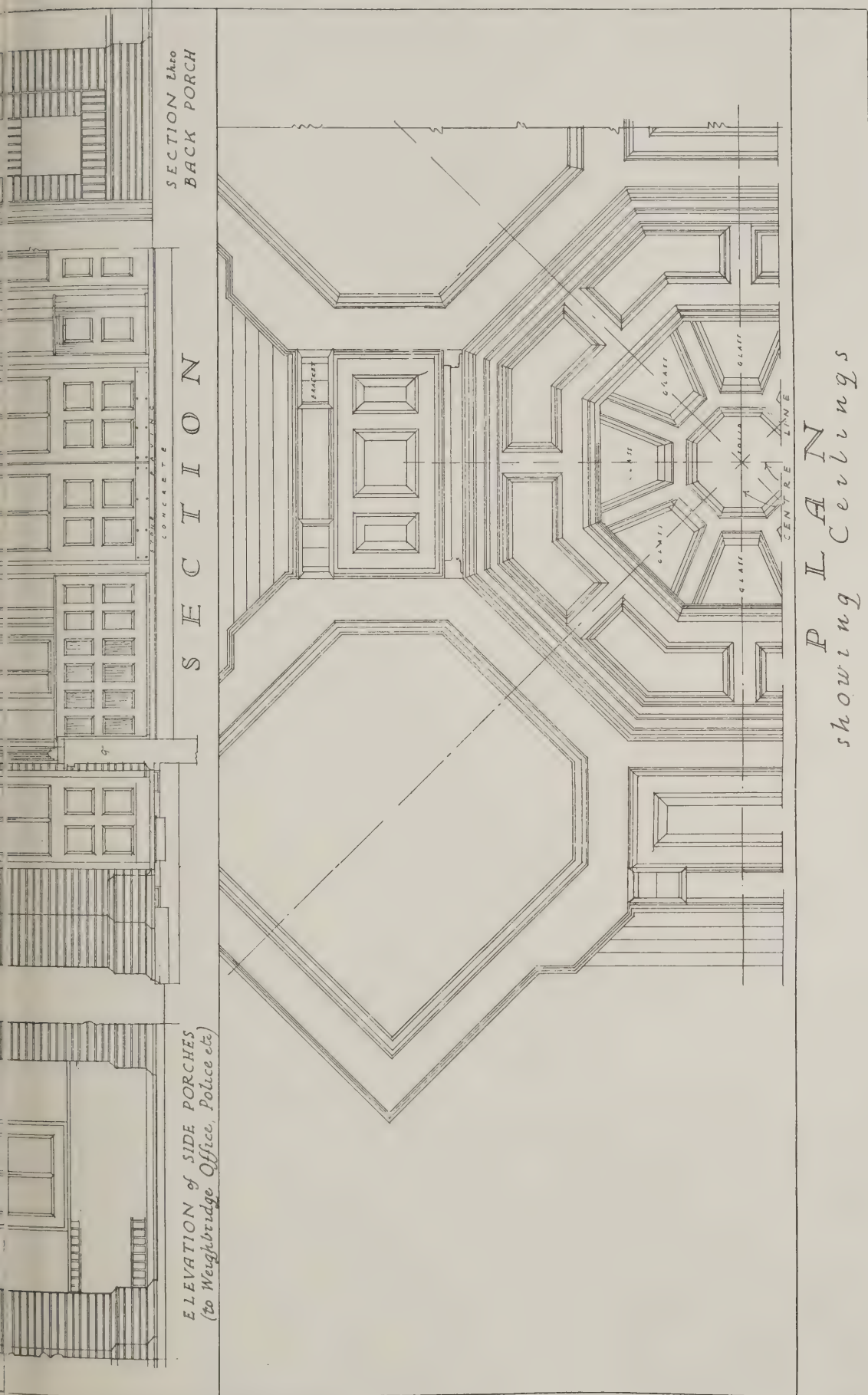
Further particulars, showing the results of careful observation and experimental evolution of a scientific system of bricklaying, will be found in Mr. F. B. Gilbreth's book "Bricklaying System" (McGraw-Hill Publishing Co., New York).

It need scarcely be stated that the introduction of new methods for executing building work requires considerable experience and practice. The ordinary workman is extremely conservative, and it is necessary to train and educate him gradually before making drastic changes. Above all, it is clearly shown that the altered conditions will conduce to his personal and financial benefit. Any extension of the principle of scientific management to various branches of the building industry would then help to reduce the cost of building generally.

Current Building Prices (September 1919).

Since the conclusion of peace, the cost of building has increased slightly in the present, but it is hoped that the prices of high building prices has not yet been reached, and that some indication of gradual diminution will soon appear.

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KYNOCHE, LTD., WITTON, BIRMINGHAM: DETAILS OF THE GATEHOUSE TO THE NEW BUILDINGS AT PRINCIPAL ENTRANCE.

BUCKLAND, HAYWOOD AND FARMER, FF.R.I.B.A., ARCHITECTS.

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current approximate values under ordinary business competition conditions follows:

slayers', masons', slaters', tilers', plumbers' work, twice pre-war rates. Joiners', founder and smiths' work, at pre-war rates.

Painters', drainlayers', carpenters', glaziers' work, $2\frac{1}{2}$ times pre-war rates.

Plumbers' and paperhangers' work, $2\frac{3}{4}$ times pre-war rates.

Summarising the above, it is estimated broadly speaking, the cost of building generally is now $2\frac{1}{4}$ times the pre-war cost of similar work.

It is understood that this valuable series of tables will appear immediately in the forthcoming form, Messrs. E. and F. N. Spon, 57, Haymarket, S.W.1, being the publishers. The book will be entitled, "Standard Building Prices, for the use of Architects, Civil Engineers, Surveyors, Contractors, etc., Calculated at the present Day Cost of Materials and Rates," by Lieut.-Colonel T. E. Cole.

The price will be 4s. net (postage included).

NOTTINGHAM MUNICIPAL HOUSING SCHEME.

The first prize of £350 offered by the Nottingham Corporation for the best plans submitted for the laying out of the Sherwood site and erection of some 1,200 municipal houses, has been awarded by the Corporation, Mr. Gotch, to Mr. W. A. Kneller, of Victoria Street, Nottingham. The second prize of £100 goes to Mr. J. H. Horth, of Hull, and the third of £50 to Mr. S. P. Pointon Taylor, of Harrow-on-Ussell. There were twenty-five sets of plans. The Housing Committee is committed to the adoption of Mr. Kneller's plan, subject to any modifications which may be found necessary. The houses

planned by Mr. Kneller are of two types, one type being of a semi-detached character, and the other in blocks of four. The fronts of the houses will not come nearer to each other than 70 ft., a good wide roadway thus being provided, and provision is also made for access from the rear. All the domestic apartments will be under one roof, and can therefore be reached without the tenant having to go out into the open air. The smaller type of house will have a big living room, scullery, coalhouse, etc., downstairs, and three bedrooms, while the large type will in addition have a small parlour. All of them will be provided with a bathroom, this in some cases being downstairs and in other cases upstairs. Space has been reserved on the site for the erection at some future time of school buildings, and also for the making of a playground.

MUNICIPAL HOUSES AT BIRMINGHAM: WINNING PLANS.

The winning designs in the Competition for plans for the municipal houses to be built at Birmingham were by Messrs. Ingall, Bridgewater, and Porter; and premiums awarded to Messrs. Crouch, Butler, and Savage; Mr. H. S. Scott; and Mr. E. Berks Norris. Messrs. Ingall, Bridgewater, and Porter's plans provide for houses grouped round three sides of two squares each, having a short drive and turning space. The walls are to be built of bricks, the general facings being of local red bricks, with Black Country facing bricks in particular cases. The internal walls are $4\frac{1}{2}$ ft. thick, with breeze concrete slab partitions between the first floor rooms where not over ground floor walls. The roofs will be of sand-faced tiles. The parlour and living room have ample accommodation, and the sculleries are fitted with

range, gas-cooker, copper, sink, table, etc. Storage room for perambulators or cycles is provided under the stairs. The average cost of these houses is estimated at £754 16s. 11d.

According to the specification of Mr. H. S. Scott, the houses he has planned would cost £749 18s. 9d. for the three-bedroom type and £789 17s. 2d. for the four-bedroom type. The houses would be built of local brick, of colours varied for the different block of houses so as to secure a variety. A similar effect would be aimed at in the tiled roofs. The floors of the parlour, living room, and scullery would be laid with Terrazzo, eliminating the use of timber. No coverings, it is suggested, would be necessary. The bath room and landings would be similarly floored, but for the bedrooms the floors would be of wood. The interior walls would be plastered, except that the bathroom might be tiled, and the scullery and pantry be walled of glazed brick. The houses are grouped around a small green.

In their specification Messrs. Crouch, Butler, and Savage say that no spectacular "lay-out" has been attempted, but an effort has been made to produce a nicely grouped plan. The houses would be built of common brick, finished externally with rough cast, and red hand-made tiles would constitute the roof. The floors would be of concrete finished with flooring-boards on bitumen for the living room and parlour, and granolithic for the scullery. Upstairs the floors would be of wood. All walls and ceilings would be plastered and coloured. A hot-water system would be attached to the kitchen with connections to the sink, bath, and lavatory basin. The cost of the four-bedrooms type is estimated at £946, and the three-bedrooms type at £832. "Lower prices should apply under more settled conditions," the designers state.



An American View of Registration

THE following article, of which we have been favoured with an advanced proof, appeared in the July issue of the "Architect and Engineer," of San Francisco, California. It would seem that in the States the Registration Law is almost a dead letter, and in this article Mr. Charles Cressey, M.S.D., suggests a means of rendering it operative. Quite obviously, therefore, his article holds interest for the advocates of registration in this country. An editorial note on the subject was given in last week's issue of the Journal.

Do our registration laws protect the architect? How often this question is asked and the answer, nine times out of ten, is in the negative. California has long had an Act which is intended to protect the licensed architect, but if it does protect there is no evidence on the surface.

The engineering societies have frequently discussed the advisability of licensing their members, and probably would do so if they could see where the architects had benefited any by the Act. The Committee on Public Relations of the San Francisco Association, American Society of Civil Engineers, was asked to take up the matter of registration. Here is its report—terse and to the point:

"There is some advantage to the licensed engineer. But licensing in the medical and legal professions has not kept quacks out, so the benefit to the public is doubtful.

"There being some doubt as to a certain benefit, *laissez faire*. If licensing were in vogue, with present knowledge, our vote would also be no change."

Mr. Charles Cressey, a member of the firm of Quayle Bros. and Cressey, architects of San Diego, has some pronounced opinions on California's Registration Law and its enforcement, or rather lack of enforcement. To quote:

"Time after time we read eulogistic words from other States and abroad, urging the registration cure-all for all architectural woes, and we, possessing both the cure and the woes, ask if it is the

shadow or the substance of registration that has staked out its claims in California. There is no great amount of criticism heard, however, upon our Registration Act itself, which, though spineless and too tolerant for most of us, does at least give legal title and a defensible right to the name architect.

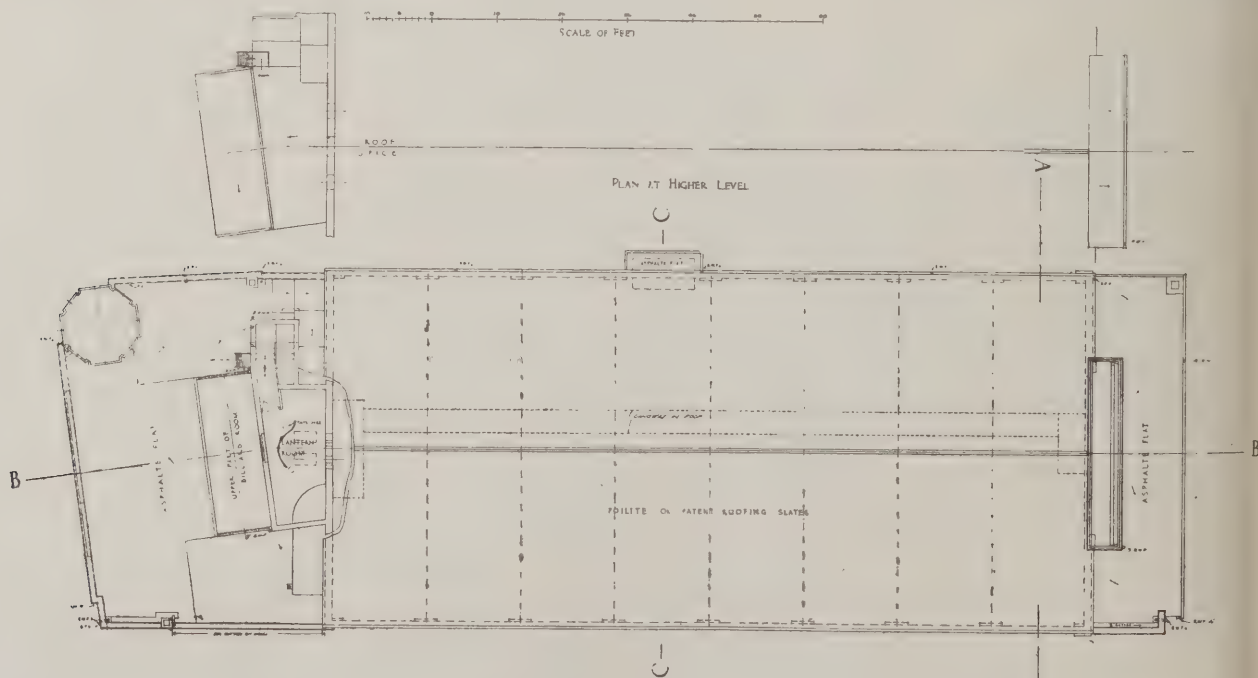
"That right and the lack of action in defending it is the cause of bitter complaint amongst architects, few of whom within my circle of acquaintance are without cases of personal loss and chagrin caused by unregistered men who care little for law and less for architecture. Accepting the California Act for what it is worth, I think I am expressing a general conviction in saying that architects should and could have greater protection than has yet accrued to the profession if the State Board exercised its powers or showed even moderate aggressiveness against admitted evils.

"It is argued that the duties of the Board are purely administrative and do not include police duty or the collection of evidence. That is a cold, cold, inactive view of an Act, which is either protective, or is just a string of worthless words. If the State Board can only proceed against offenders upon formal complaint and definite evidence gathered by outsiders, that point of view is not generally known or accepted, and a service will be done by stating the fact and inviting co-operation of all interested. Too great a stress appears to be given to the letter of this Act and too little attention paid to the power of personal influence and leadership.

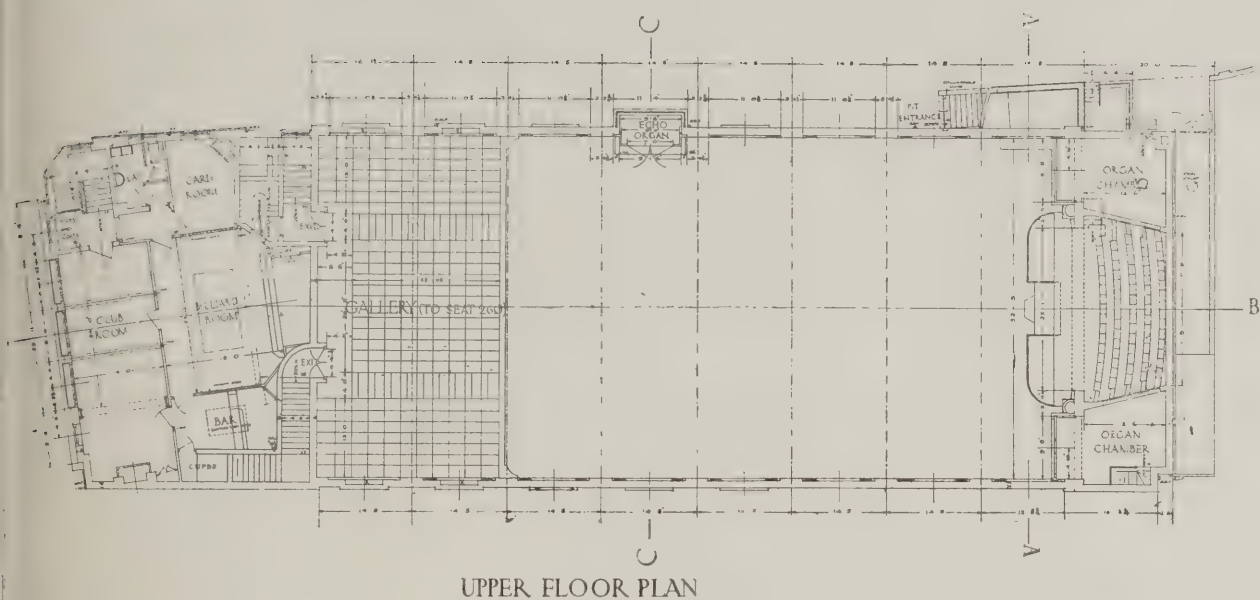
"Members of the State Board are individually respected, each having a record and standing in business life which assures them a hearing on the subject in which they are specialists. So far there has been reluctance to assume this attitude of leadership, and few outside the profession know of their existence as a State Board of Architecture or that they have charge of an Act primarily for the protection of the public

"Most of the departments under control are doing vital work in education, propaganda, going right to the public with practical reasoning and facts, a mood has never been in so receptive mood as now. Everything from raising to safety-first ideals seems advised upon by State specialists, giving only that art of sane and safe planning on which public life is so thoroughly dependent. Prove to the public that cash loss, mental sluggishness, and production follows imperfect planning, surely as it follows imperfect fee prove that half-bad planning is dangerous than half-truths in speech prove that architecture is the prime of planning—that decoration is a mental art, and that this art of planning is the work only of men specially trained beyond the arts of practical building the cost of time, untold perseverance, personal sacrifice—prove, too, that a certificate can be won only by qualification, be lost by misconduct, and is purchasable as the Military Cross or Valour—and we will need to work little over incompetent pretenders.

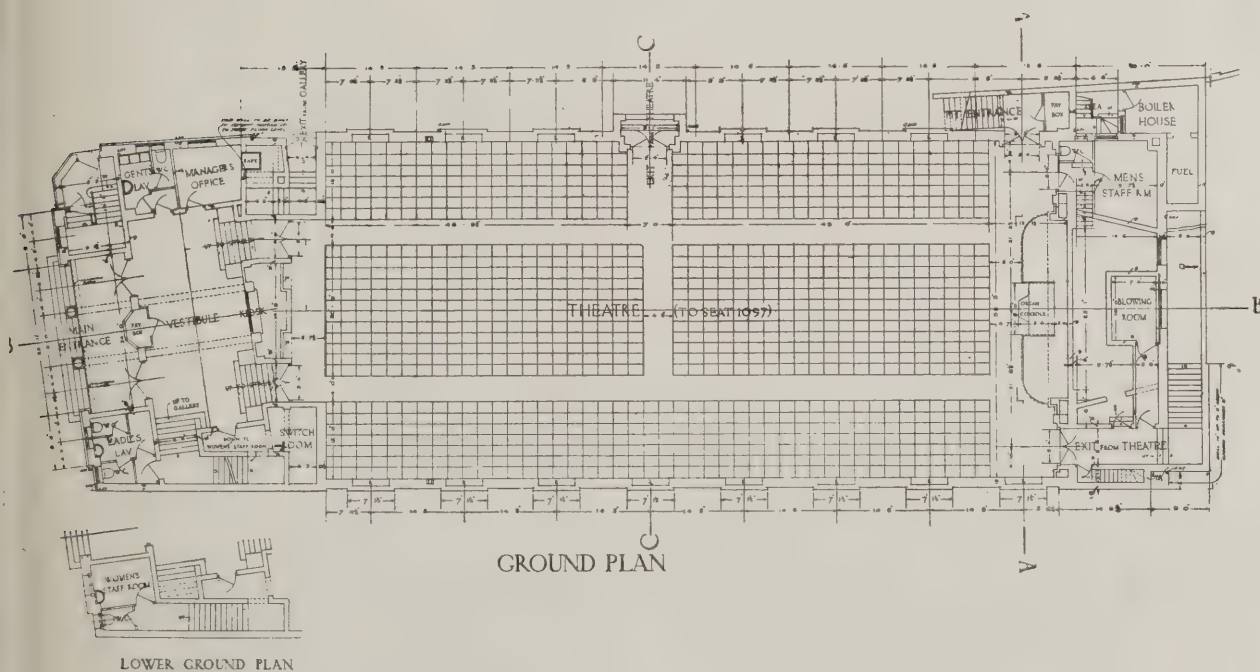
"This educational work is a duty field in which the standing and authority of the State Board of Architecture is merely essential, but is irreplaceable. Neither the A.I.A., the local chapters, nor the most earnest words of the architect Press, can ever give the tone or reach ears of such a public as would the combined efforts of a board acting in the public interest as distinct from the interests of architects. There is in this line an expression of the new idea of government—not repression, punishment or interference with the public in their interest—but, helpful, truthful leadership giving service to the many enterprising men and women who do or may be wronged from simple lack of understanding. If the State Board is to remain a purely examining body, helpless against offenders, for want of a more drastic method, then architects are hopeless indeed."



ROOF PLAN OF PROPOSED CINEMA AND CONCERT HALL AT FAST SHEEN.
WILLIAM E. COUCH, A.R.I.B.A. AND W. VERNON COUPLAND, ARCHITECTS.

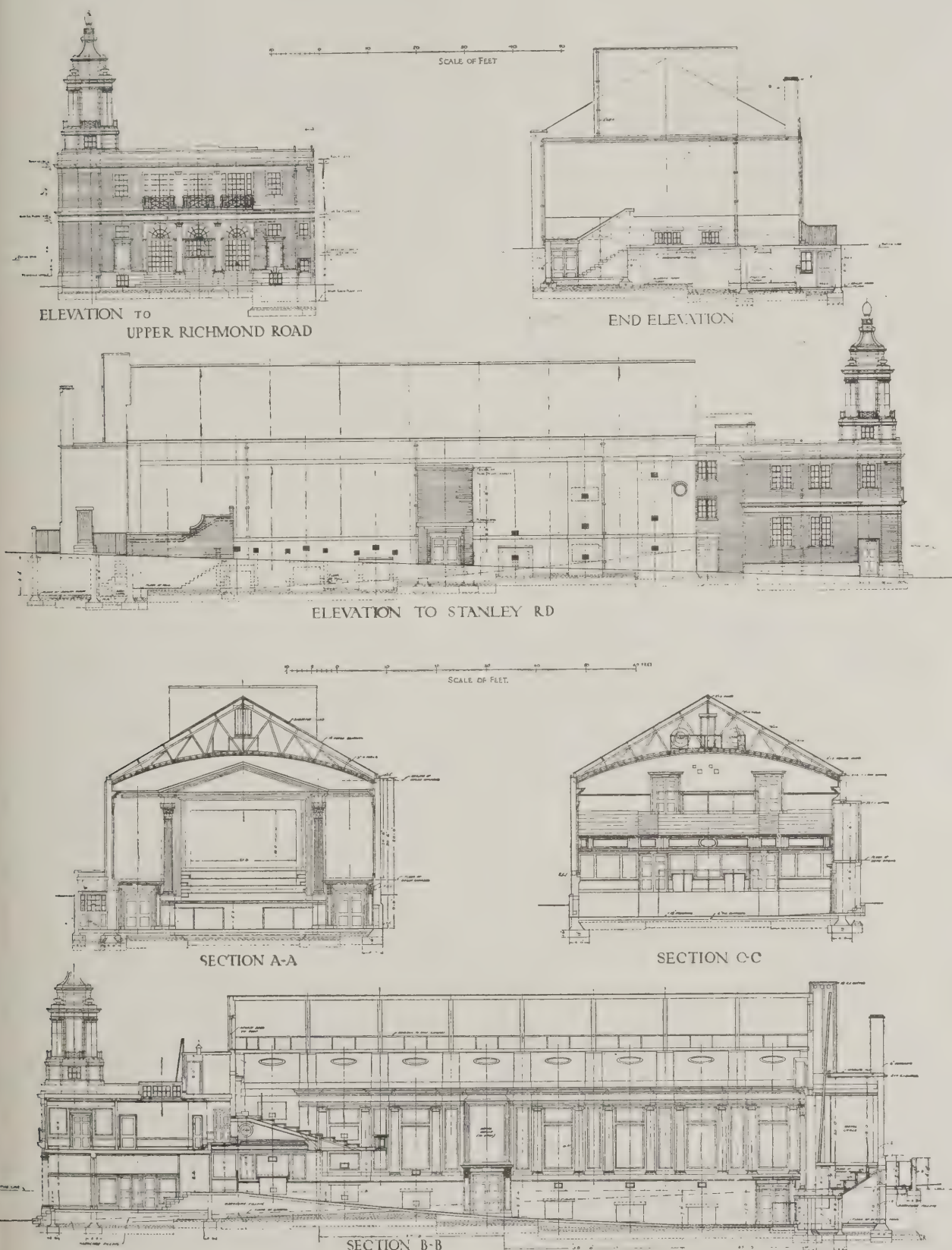


SCALE OF FEET



PROPOSED CINEMA AND CONCERT HALL AT EAST SHEEN.
WILLIAM E. COUCH, A.R.I.B.A., AND W. VERNON COUPLAND, ARCHITECTS.

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HOUSING SCHEMES: FEES PAYABLE TO ARCHITECTS.

Ministry of Health have issued the General Housing Memorandum with regard to fees payable to architects and quantity surveyors in connection with State-aided housing schemes:

Minister of Health has decided that fees payable to architects and quantity surveyors in private practice for professional work which may be charged in connection with State-aided housing schemes and rank for financial assistance according to the scales set out in the Memorandum. These scales have been framed on the assumption that properly qualified architects and quantity surveyors of the respective professions will be employed. No charge to capital will be allowed in respect of the preparation of schemes which are not required by the Ministry of Health. Special arrangements may be required in exceptional circumstances, but for ordinary cases the following scales of fees and emoluments shall apply:

I.—Architects.

Preparation of Lay-Out Plans.—For the preparation of a plan or scheme showing existing maps, showing roads, and plots and buildings in block, in

conference with local authorities or officials;

surveying, levelling, and preparing a contour plan;

lay-out plan (where necessary) to scale;

detailed lay-out plan or plans to scale;

exclusive of the preparation of detailed drawings of buildings:

For the first twenty-five houses, £1 per house; for the next seventy-five houses, 7s. 6d. per house; for the remainder, 7s. 6d. per house.

Where the number of houses has been determined, the fee shall be on an average of ten houses per scheme. Where a fully contoured plan of the site is provided by the local authority, a discount shall be made in respect of the fees above stated, of £1 per scheme.

Roads and Sewers.—For preparing drawings, specifications and estimates for roads and sewers in accordance with the lay-out plans prepared by the local authority, advising on the same and preparation of contract, furnishing to the contractor one copy of the drawings, specifications and quantities, general supervision, issuing certificates, measuring and certifying the accounts:

For the first twenty-five houses, £2 per house; for the next seventy-five houses, 15s. per house; for the remainder, 15s. per house.

Cottages and Flats.—For taking measurements, preparing sketch design, and approximate estimate of cost, making drawings and specifications, preparing tenders, advising on tenders, preparation of contract, selecting and instructing consultants, furnishing to the contractor one copy of the drawings, specifications, and such other details as may be necessary for the proper carrying out of the works, general supervision, certificates for payment, and passing and certifying accounts:

2 per cent. upon the first twelve cottages or flats; 2½ per cent. upon the next twelve cottages or flats; 1½ per cent. upon the remainder.

This scale covers the ordinary variations in type of house and such modifications as are made to avoid monotony in appearance.

Save in exceptional circumstances, it is not desirable that any one architect or firm of architects should be entrusted with more than 250 houses in any one scheme, but the fees payable in respect of each 250 houses shall be calculated as above, whether or not several architects be employed thereon.

II.—Quantity Surveyors.

For the preparation of bills of quantities:

Two per cent. upon the first twelve cottages or flats; 1 per cent. upon the next sixty cottages or flats; 3.5 per cent. upon the next 178 cottages or flats; ½ per cent. upon the remainder.

This scale covers the ordinary variations in type of house, and such modifications as are made to avoid monotony of design. For measuring variations on the contract and adjusting the final accounts, the remuneration shall be at the rate of 1½ per cent. on additions, and 1 per cent. on omissions brought into account. The above scale is exclusive of all disbursements in respect of printing, lithography, and other out-of-pocket expenses.

The above scales of fees are intended to include all necessary duties of an architect and surveyor incidental to the carrying out of the work, including such duties as are involved in complying with the requirements of the Ministry of Health. The conditions of engagement of architects and surveyors shall be those which are customary in the respective professions; for example, generally, such as the conditions prescribed by the Royal Institute of British Architects in the case of the engagement of architects.

WEEKLY HOUSING RETURNS.

The return of housing progress issued weekly by the Ministry of Health states:

The number of new schemes submitted to the Ministry during the week ended September 6 was 145, bringing the total number of schemes submitted to 4,685, comprising about 44,500 acres. The total number of schemes approved is 1,493, comprising about 18,700 acres. Some large house-plan schemes from the Midlands were received by the Ministry during the week. Approval has been given to the house-plans submitted by Leek (210 houses), Tipton (190 houses), Quarry Bank (64 houses), and Wolverhampton (24 houses). House-plan schemes from other parts of the country include large schemes from Sunderland (199 houses) and Little Lever (115 houses). The Ministry, before sanctioning the purchase of a housing site by a local authority, require the authority to consult the district valuer of the Land Valuation Department as to the value of the site. If desired by the local authorities the district valuers undertake negotiations with the owners of sites. A statement has been prepared showing the results of the 516 cases in which such negotiations had been successfully completed up to the end of August. The total of the sums provisionally agreed upon by the local authorities or asked for these sites was £946,338, the valuation set upon the sites by the Government valuers was £667,972, and the total finally agreed to be paid was £716,870. The saving effected was thus £229,468, representing a reduction of 24.3 per cent. of the price asked or provisionally agreed upon. The area comprised in these 516 sites was 4,093 acres, and the figures worked out per acre are: Amount asked or provisionally agreed upon, £231; amount of valuation, £163; amount agreed, £175;

saving, £56. Applications in considerable numbers are being received from local authorities for War-Service huts suitable for adaptation into dwellings for the working classes. In the case of one town, where people are in occupation of adapted huts, the increasing demand has led the local authority to making an application for a further supply. The Ministry have been able to arrange for huts to be immediately available in a number of cases, and are in negotiation with the War Office with the object of arranging for more huts to be made readily available for acquisition by the local authorities for housing purposes.

As regards the conversion of houses into flats, it is found that about 4,000 houses are considered by the Metropolitan Borough Councils to be suitable for conversion. As expected, the outer suburbs of London do not provide many cases of unoccupied houses considered suitable. The returns received from twenty of the larger local authorities, excluding the authorities within the London county Council area, show that the total number of unoccupied houses which are considered by the local authorities to be suitable for conversion into flats is 382. The number of rooms in the 382 houses is 4,228, or an average of eleven rooms to the house. Inspection of these houses is being made by the London Housing Board.

Details of the schemes of local authorities dealt with during the week are:

Building Sites.

Schemes Submitted.—The number submitted by 55 local authorities was 144, bringing the total number of schemes to 4,619, covering approximately 41,500 acres.

Schemes Approved.—Seventy schemes were approved, comprising an area of 443 acres. This brings the total number of local authorities' schemes approved to 1,462, covering approximately 18,500 acres.

Lay Outs.

Schemes Submitted.—Fifty-three schemes were submitted by 35 local authorities, bringing the total number of schemes submitted to 814.

Schemes Approved.—Forty-six schemes, promoted by 37 local authorities, were approved, bringing the total number of schemes approved to 415.

House Plans.

Schemes Submitted.—Forty-seven schemes, representing 1,247 houses were submitted by 26 local authorities. This brings the total number of local authorities' schemes to 490, representing 27,529 houses.

Schemes Approved.—Twenty-seven schemes, promoted by 20 local authorities, were approved, bringing the total number of schemes approved to 301, representing 18,260 houses.

ENQUIRIES ANSWERED.

Stone Liquid; Ascertaining Web Members.

CALLIACH (Inverness) writes: "(1) What was the stone liquid with which Sir Edwin Lutyens is said to have treated the cenotaph? (2) Would some of your mathematical readers kindly explain in detail how 'Humber' obtains the web members on page 41 of his book on strains?"

—(1) We understand that the cenotaph was treated with "Coatostone," a preparation that is frequently advertised in the "Journal." (2) Perhaps some reader who is familiar with "Humber" would like to give the explanation for which the querist asks.

The Week's News from Far and Near

Death of a Rugby Builder.

The death has taken place of Mr. W. H. Dexter, a well-known Rugby builder.

Parish Hall as Victory Memorial.

High Halden, Kent, has raised £677 for the building of a parish hall as a thank-offering for victory.

Proposed Winter Garden for Hackney.

The Hackney Borough Council are considering a proposal to erect a Municipal Winter Garden.

Marylebone's New Town Hall.

Built and furnished at a cost of £100,000, Marylebone's new town hall will be opened next month.

Brecon War Memorial.

Brecon's war memorial is to take the form of a new wing to the County Hospital. It is also proposed to erect a monument in the town.

Brighton Housing Scheme.

Sir Kingsley Wood, secretary to the Minister of Health, recently inaugurated Brighton's housing scheme on the Moulcombe Estate. Five hundred houses are to be built.

Rebuilding of Southend Theatre.

A commencement has been made with the rebuilding of the Empire Theatre, Southend-on-Sea, which it is anticipated will be completed by the end of the year.

Iron Buildings at Tredegar.

Tredegar Urban Council has accepted the Board of Guardians' offer to let some iron buildings for housing purposes at 3s. per family weekly.

Cottage Hospital for Southall.

Southall V.A.D. Committee is giving £500 from its surplus funds towards the erection of a cottage hospital as a local war memorial.

Billericay Housing.

Tenders received by the Billericay (Essex) Rural Council for the building of eight cottages included one for £9,998, or £1,249 a cottage. The council decided to accept the lowest tender of £5,840.

Architectural Practice.

Mr. R. H. Dewhirst, A.R.I.B.A., who has been demobilised from the R.F.A., has since February been carrying on the practice of the late Mr. J. F. Wetherell, at 65, Conduit Street, London, W.1.

Hospital Extensions at Exeter.

The committee of the Royal Devon and Exeter Hospital has accepted a tender for £29,201 for the proposed extension of the hospital, and the work will be proceeded with in sections.

Church Restoration at Leicester.

A fund has been started for the restoration of the Parish Church of All Saints, Leicester. This is an old building of great architectural interest, and contains many early Norman relics.

Demolition of Old Nottingham Property.

The demolition is taking place of some old Nottingham business property dating back to 1600. New factories are to be built on the site.

Liverpool School of Art.

Mr. Gordon Hemm has been appointed demonstrator in draughtsmanship at the Liverpool School of Art, and also to organise a new department to be run on the lines of an architectural office.

Wortley and Army Huts.

The Wortley Rural Council has authorised the Chapelton, Ecclesfield, and Tankersley members, to purchase six Army

huts for each of those districts, with a view to their rapid conversion into dwellings for people at present living in houses unfit for habitation, and waiting to be closed.

Irish Housing Scheme.

Arrangements have been completed with an American and Scottish trust for the loan of £150,000,000 for housing in Ireland. This money will be lent to local authorities at 5 per cent., both principal and interest to be paid in fifty years.

Liverpool Spends £22,000 on Huts.

At the series of sales at Knotty Ash Camp the Corporation of Liverpool spent £22,000 on Army huts. The remaining sales at that place have been cancelled, as the Disposal Board of the Ministry of Munitions is to sell the huts by private treaty.

Bentley Housing.

In connection with the housing scheme being carried out by the Bentley Urban Council final approval has now been obtained for the erection of another thirty-two houses. The price is £1,307 per pair of type 1 house, and £1,452 for houses of type 2.

Welsh Architect's Death.

The death has taken place at Shrewsbury of Mr. G. Dickens Lewis, architect, Aberystwyth, aged forty-three. He was son of the late Rev. G. Dickens Lewis. He was a prominent Freemason, and for twelve years had been architect for the County of Cardigan.

Bridlington Housing Scheme.

The Bridlington Town Council have acquired six cottages and 24½ acres of grass land on the west side of St. John Street. The price agreed is £5,500. It is probable that the purchase may result in the opening up and development of the area.

Oswestry High School Extension.

For £2,000 the Shropshire County Council have purchased Oswestry Church House as an extension to the Girls' High School. The church committee are now negotiating for the sale of Oswestry Vicarage. When the residence, which was formerly offered for £4,000, is sold, a smaller vicarage will be built in the grounds.

Birmingham's Housing Director.

The Birmingham Housing and Town Planning Committee have appointed Lieut.-Colonel Frank T. Cox, D.S.O., who has had fifteen years' experience with his father in the building trade at Maidstone, to be the city's housing director at a salary of £1,000 a year. The new housing director will commence his duties on September 22.

Renaissance Tower for Oxford Street.

A higher tower will form part of the extensive new building that Mr. Gordon Selfridge is adding to his store in Oxford Street. Mr. Selfridge has secured the services of Sir James Burnet, designer of the extension to the British Museum. Sir James will work in conjunction with Messrs. Graham, Anderson, Brobst, and White, the Chicago architects. The new building will be completed in about a year and a half.

Glasgow Housing Scheme.

At a meeting of the Housing and General Town Improvement Committee of Glasgow Corporation, under the chairmanship of ex-Bailie Morton, site plans for 5,000 addi-

tional houses in the north-west, south, south-east districts of the city were approved. These will be submitted to the Scottish Board of Health, and instructions will be given to the valuation department of the Inland Revenue to negotiate for purchase.

Surrey Building Trades Pay.

The South-Eastern Conciliation Board has made an award in the building trades of West Surrey, under which carpenters bricklayers will receive 1s. 6d. per hour, painters 1s. 5d., scaffolders 1s. 4d., labourers 1s. 3d., the new scale to be in force for six months. As a result of the erection of eighty-two houses by Guildford Corporation will be increased by £5,500, bringing the total to £69,000.

Housing in Lancashire.

The delay in proceeding with the erection of houses in crowded Lancashire has evoked a protest from the South Lancashire branch of the National Federation of Building Trades Operatives. Representatives of 5,000 operatives have passed a resolution requesting the Government and the local authorities "to lift an embargo on the building of and allocations to picture palaces, theatres, public houses, and other places of amusement and luxury, and devote the labour material to the building of houses."

London Master Decorators.

At an extraordinary meeting of the London Association of Master Decorators held at 34, Russell Square, W.C., Mr. Stewart-Greene presiding, it was unanimously agreed to affiliate with the National Federation of Master House Painters and Decorators of England and Wales. This will greatly strengthen the London Association and will probably give it representation on the Building Trades Parliamentary Committee. Decorators who desire to join should communicate with the organising secretary, Mr. A. Seymour Jennings, F.I.B.D., Bank Chambers, High Holborn, W.C.

House-building Costs at Halifax.

The Halifax Housing Committee have considered tenders for the erection of two houses in connection with the housing scheme. The houses proposed to be erected comprise a living-room, kitchen, bathroom, and two bedrooms, etc., on the ground floor, and two bedrooms on the first floor. On totting up the tenders the Committee found the cost worked out at over £1,000 per house. They therefore decided to seek permission of the Ministry of Health to carry out the work through the local engineer by direct labour, by which it is anticipated there will be a saving of at least £200 per house.

Architectural Partnerships.

Mr. T. D. Atkinson, F.R.I.B.A., who has been appointed surveyor to Winchester Cathedral and College, is also surveyor of ecclesiastical dilapidations for the diocese of Winchester. Mr. Atkinson has entered into partnership with Mr. Charles William Long, A.R.I.B.A., who was formerly a research student at Cambridge University. Captain Long has been some years in independent practice in London, and will henceforth be the local representative of the firm of Atkinson and Long. Mr. Atkinson holds the post of surveyor to Ely Cathedral. The firm will practice at Cambridge, London, and Winchester, under the name of Atkinson and Long.

CORRESPONDENCE

Pisé-de-Terre Construction.

I should like, if I might, to contribute you upon the dignified protest you have made—to which there be, but little to add—against the reintroduction of pisé-de-terre building material.

Whatever dire circumstances we may ourselves placed, we cannot solve our ills by such reversions. The first step to pisé-de-terre construction, all we say?—the matter of clothing, that owing to the enormous increase in the price of textiles, the less of the community would have to clothe themselves in rough skins, leaves, or wood, on the plea of economy!

During the war was not asked and itself with toxophilic instincts, and if immediate economy, irretrievable efficiency and dignity, were the guiding factor of our actions, such a policy would have naturally developed. In times of peace, the ingenuity, research, and invention of mankind, the summation of ages of thought, labour, and diligence, the result of centuries of advancement, let us not towards that infinitely distant yet enduring goal to attain which civilization has been, and is, but one long painful glorious striving, cannot ruthlessly set aside in an attempt to provide for the very same men for whom it was too costly as an instrument of civilization.

Economy and retrogression should not be confused.—Yours, etc.,

H. J. BIRSTINGL, A.R.I.B.A.

CONVERSION OF HOUSES INTO FLATS.

The Ministry of Health announce that they have now issued for the instruction of local authorities the Manual on the conversion of houses into flats for the work-uses, which was promised by Major Balfour in the House of Commons on 11th June. The new Housing Act gives local authorities the power to acquire suit-able houses and convert them into flats, while the Ministry are anxious that local authorities should not in any way hinder their efforts to hasten the erection of new houses, they think such efforts should be encouraged by these powers of conversion in order to secure as great an increase in the amount of accommodation as possible before next winter. The Manual states that if a house may desire to undertake conversion itself and, in such a case, the Housing Act enables the local authority to advance the whole or a part of the money to defray the cost, though the advance must not exceed one half the estimated value of the property. The Manual also indicates the procedure which should be adopted in such cases. It is suggested that the rate of interest to be paid to the owner should be $\frac{1}{2}$ per cent. above the rate at which the local authority borrows, and the Ministry are of opinion that such payment should be required not more frequently than every half-year.

For houses which could be converted into working-class tenements are available, proposals for conversion are made by the owners, the Ministry urge upon local authorities the advisability of exercising their new powers of acquiring houses themselves, either by agreement or by purchase, and converting them into flats. The Manual points out that the local authority, by reason of their

local knowledge, will usually be in a position to judge whether a particular property is suitable for conversion. It is not practicable to lay down rules for their guidance, but the widest scope for the operation of a scheme of this kind will probably be found in districts which consist mainly of large houses for which the demand has fallen away owing to changes in the character of the neighbourhood. It is not suggested that a local authority should seek to acquire empty houses indiscriminately, and the Manual points out that it would be undesirable to acquire an individual house which happened to fall empty in a neighbourhood in which similar houses continue to let without difficulty. The Manual points out that the local authority should not limit inquiry to large houses; terrace houses when taken in groups of two or more being capable of conversion into convenient flats with one common staircase. The construction of the houses is a matter which will require careful consideration, and those houses which can be converted with a minimum of cost are to be preferred. The total cost of the acquisition and conversion should be very substantially less than the cost of the provision of an equal number of new houses. The Manual concludes with an outline of the procedure to be followed, first in acquisition by agreement, and next in acquisition by compulsory purchase. The Manual can be purchased directly from the depots of the Stationery Office or through any bookseller.

TRADE AND CRAFT.

"Shell Haven" Bitumen.

Petroleum bitumen, hitherto mainly imported from abroad, can now claim to be a home-produced article, for the Shell Marketing Company, of 39 and 41, Parker Street, Kingsway, W.C., makers of the well-known motor spirits, are manufacturing the "Shell Haven" bitumen from their own crude oil at their refinery at Thames Haven. This will naturally effect much saving on the old practice of importing the distilled oil from far distant lands—notably Mexico and South America—and bringing it here for refinement. The firm claim that their product is pure bitumen containing no other substance whatever. It sets hard and is much less susceptible to the action of climatic conditions than is ordinary asphalt. "Shell Haven" bitumen does not become soft and sticky in hot weather, and is therefore highly suitable for surfacing playgrounds, also it is said to give excellent results for roofing. The Shell Company are hoping that, before long, its recognised manifold advantages for road-making will become more generally known. In America all the principal thoroughfares are constructed with this material in preference to common tar, and it is understood that the results have exceeded all expectations. Roads so treated are firmer and stronger, and there is less unpleasantness from dust. Finally, it is stated that the "Shell Haven" bitumen is being largely used by paint and varnish makers, and also by cable manufacturers.

British Portland Cement Manufacturers.

The annual report of the British Portland Cement Manufacturers of 4, Lloyd's Avenue, London, E.C.3, states that with the cessation of hostilities Government contracts were suspended and the home trade fell off owing to the general unsettled conditions. This, however, was

counterbalanced to some extent by the resumption of the export trade. The production of cement during the year showed a moderate increase, improved facilities for obtaining labour being granted when the Government was pressing for increased deliveries of cement. The profits of the year permit of the payment of a dividend of 8 per cent. on the ordinary shares against 6 per cent. last year, after providing £75,000 for depreciation as against £50,000 last year. The desirability, in the interest of the shareholders, of closer working of the company with the Associated Portland Cement Manufacturers (1900) Limited (which holds a controlling interest in the Ordinary share capital of the British Company), has been recognised by the Boards of both companies, who have adopted a scheme of joint management. The reorganisation of the management has been facilitated by arrangements which were made with the following gentlemen to retire from the Board as at July 31 last: Messrs. J. Bazley-White, Robert Brearley, E. S. Curwen, Arthur Durose, A. J. Jack, G. M. R. Layton, Edwin Robson, Leslie G. Shadbolt, Halley Stewart, and C. H. Watson. Messrs. Alfred Brooks and Anthony White, who are managing directors of the Associated Company, have been appointed managing directors of this company, and on the other hand Messrs. A. C. Davis and P. M. Stewart have been appointed managing directors of the Associated Company, so that the managing directors of both companies are now identical. Sir Guy Granet has been appointed a director of the company and the shareholders will be asked to confirm his appointment at the annual meeting. On the Chairman's return from active service, Mr. F. A. White retired from the vice-chairmanship of the company and from the Board. Mr. C. Fielder Price also resigned his directorship of the company during the past year. At the ensuing annual meeting, Brigadier-General the Hon. F. C. Stanley, C.M.G., D.S.O., retires from the Board and, being eligible, offers himself for re-election.

WAGES IN THE BUILDING TRADE

Representations have been made to the Ministry of Labour by the London Master Builders and Aircraft Industries Association, and the National Federation of Building Trade Operatives, under the Wages (Temporary Regulation) Acts 1918-19 for the extension by order making the following agreements binding in the London district. The Minister of Labour intends to seek the advice of the Interim Court of Arbitration in accordance with Section 2 sub-section 3 of the Wages Acts, as to whether he shall by order direct that the determination or variation affected by the agreements shall be binding on all workmen to whom the prescribed rate or rates in question are applicable, and the employers of those workmen: 1. An agreement of January 17, 1919, approved by the Minister of Labour in February, 1919. 2. An agreement of April 1, 1919, approved by the Minister of Labour, May 2, 1919. Amended by the National Board of Conciliation on June 3. 3. An agreement in respect of Scaffolders' rate of wages, approved by the Minister of Labour on June 28, 1919.

The Court wish to be guided by advice and information from representative bodies of employers and workpeople. The Court propose that the hearing shall take place at 5, Old Palace Yard, London, S.W.1, on September 18, at 10.30 a.m.

Hygienic Disposal of Domestic Refuse

WHILE the desirability of destroying household and domestic refuse on the premises where it has accumulated, rather than to collect and ultimately destroy it in bulk, has always loomed largely in the vision of municipal authorities and medical officers of health, it cannot be said to have begun to become apparent to householders themselves until recent years. The war, and the consequent shortage of labour, has, of course, proved a great factor in convincing the average householder that a dustbin containing a collection of household refuse (consisting of the usual contents of a kitchen sink-basket, etc.) is by no means a desirable or hygienic adjunct to an otherwise well-kept residence. This has been accentuated by the fact that dustbins are frequently found within, let us say, striking or contaminating distance of larders, pantries, or apartments where food is cooked or prepared.

The shortage of labour during the past year was so serious that a number of municipal authorities were unable to guarantee even a weekly collection of what their own medical officers of health had repeatedly referred to as a serious menace to health, not only from the point of view of the pollution to the surrounding atmosphere arising from the decaying matter itself, but because dust-bins are notoriously breeding-grounds for the pestilent and germ-distributing fly. In some cases, indeed, the borough medical officers of health sent leaflets to the inhabitants strongly recommending them to burn their household refuse. This was really a repetition of the advice they had been giving for years; but it was more strongly emphasised, owing to the aforesaid difficulties of collection causing the dustbins to become more than usually overcharged, offensive, and dangerous.

In addition to the disadvantages attached to the possession of a full or overfull dustbin, it may also be pointed out that the interior of a dustbin that has even recently been emptied is by no means "a thing of beauty and a joy for ever," as the accumulated filth on the bottom and sides still gives some indication of its horrible past. Again, even the collection of household refuse cannot be called a hygienic process. We have all seen overfilled dustbins being carried to the dust-cart with small portions of their contents dropping out in transit, and, if the weather be windy, germs, etc., must be blown about when the dustbins are emptied into the cart. Look at it how one may, it must be conceded that the whole business is primitive to a degree; indeed, in an age of advanced sanitary science, it is almost the only blot on our record.

The remedy, of course, has always been known; it is perfectly simple to indicate, and, indeed, has been indicated for some years by medical officers of health and sanitary scientists. This remedy is the complete destruction by fire of all the animal and vegetable refuse which is accumulated each day in our kitchens. To carry out this work satisfactorily, however, it is essential that the refuse should be burned—and completely burned—on the day of its accumulation, and not be allowed to stand sufficiently long to become a menace to health. It is not too much to say, also, that if all refuse, other than ordinary dust sweepings, were destroyed in this manner, municipal

authorities would have very little household collection to carry out at all, and ratepayers would reap their reward in a twofold manner, gaining both in health and in pocket.

Though the remedy is so simple to indicate, however, it has hitherto proved difficult to carry out. The reason for this is that nowadays so few people make use of the kitchen range during the summer months, owing to the superior cleanliness, coolness, and labour-saving qualities of the now ubiquitous gas-cooker. Indeed, there are now numbers of small houses, flats, etc., containing what are known as "all-gas kitchens," and their numbers are continually and rapidly increasing. In the "all-gas kitchen" no coal range whatever is to be found; but in its place there is a tiled or rendered-out recess in which are fixed the gas cooker and gas water-heater (in larger houses, sometimes a coke boiler), and sometimes a gas fire. Occasionally a small gas condensing stove is fixed in a convenient position outside the recess. Now, even though there may be a coal range in the kitchen, there are very few cases where a fire is lighted in it during the whole of the summer season, and this, be it noted, is the worst period for the accumulation of household refuse from the view-points of both hygiene and offensiveness, though it must be admitted that there are drawbacks to such accumulations at any period of the year.

Coal fires, therefore, can usually be considered out of the question for the destruction of rubbish. When these were not in general use, people would not—and, on the score of trouble and expense, could not afford to—light a fire especially to destroy, say, each pailful of refuse. It has accordingly become necessary to look in other directions for the solution of the problem.

For a number of years it has been possible to obtain gas-fired refuse destructors, of sizes and capacities suitable for factories, institutions, restaurants, large residences, etc., and these have been installed successfully in a large number of cases. These appliances are of various sizes; they will destroy anything from a bushel or more of refuse, etc., at a time, and when in continuous use, say, up to half a ton a day.

In order to obtain the greatest value from the gas consumed during the continuous, or fairly continuous, destruction of large quantities of refuse, and to utilise the heat arising from the burning refuse itself, a gas-fired destructor has been designed and constructed with a water-jacket and flow and return water connections, to serve the twofold purpose of a refuse-destructor and water-heater. A speciality of this apparatus is that it can be used with coke or other fuel, or with gas only, according to requirements. The sizes and prices of all the above-mentioned gas-fired destructors, however, prohibit their use in medium and small-sized houses, and in all classes of flats. As regards the latter type of residence, which are ever increasing in number, it may safely be stated that the destruction of household refuse is of greater importance than ever, as there are frequently as many as, say, one hundred of these built on a piece of land on which, perhaps, only ten or twelve residences previously stood; therefore, instead of ten or twelve dustbins there are now one hundred

or so accumulations, each adding its quota to the pollution of the air.

A gas-fired refuse destructor of convenient size for flats or medium sized houses, appeared on the market at the end of 1916, and its use is increasing rapidly. These small domestic destructors or incinerators are only 18 in. high by less than a foot wide, and have a capacity of about a pailful of refuse at a time, though they will work best when filled to not more than two-thirds of their total capacity. It is understood that they are also obtainable in a larger size, with a capacity up to two pailfuls of refuse at a time. In every detail appears to have been thought out, they are extremely simple in design and construction, and the consumption of gas is reasonably low.

They are very simple to fix, and may be installed in any one of the following positions: (1) On the coal range as a temporary or permanent fixture, with flue-pipe attached, to carry away the products of combustion and smoke from burning refuse. When the destructor is stood over the coal firebox the flue may be passed through the open top of the plate-rack (or, if preferred, the plate-rack may be removed when the coal is out of use) and up through the door opening in the register plate. The destructor is stood over the top of the register plate above must be placed to allow the flue-pipe to pass through the door. When there is no coal range the destructor may be fixed in the recess containing the gas-cooker, etc., or in the angle of the recess; in either case a flue-pipe may be carried into the chimney flue. The desired destructor may be fixed in a scullery and a flue-pipe carried to the copper flue. The gas connection is only 1/4-in. iron barrel, or, for temporary use, a suitable flexible tube which may be joined to the nearest gas pipe. The gas consumption is really low, a small amount of valuable and healthful gas being accomplished, as we understand it, a pailful of mixed wet and dry refuse, a short time be reduced to about a handful of light, powdery ash, by the consumption of a pennyworth of gas at 3s. per 1,000.

Another useful type of gas-fired destructor is suitable for insertion in a coal range. As such appliances are obtainable, we are obviously at the beginning of a new era, and while we are probably be too sanguine in predicting that in a few years' time all household refuse will be destroyed at the source of accumulation in the simple manner mentioned, there is no doubt whatever that the custom will rapidly spread, to the benefit alike of householders, municipal authorities, and the community as a whole.

COMING EVENTS

WEDNESDAY, OCTOBER 8, TO SATURDAY, NOVEMBER 1.

Housing and Health Exhibition at Kelvin Hall of Industries, Kelvin, Glasgow, from October 8 to November 1. The City Corporation have been necessary to obtain increased accommodation, and have taken possession of a building adjoining the Kelvin Hall. It has been decided to erect two cottages in the annexe.

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ELECTRICAL NOTES.

The Supply of Electricity.

The Hon. Sir Charles A. Parsons, K.C.B., D.Sc., F.R.S., in his presidential address at the annual meeting, held at Bournemouth, of the British Association for the Advancement of Science, said that as a means of transmitting power over long distances electricity had no rival, and its efficiency was so high that when generated on a large scale and distributed over large areas it was a cheap and reliable source of power for working factories, tramways, suburban railways, and innumerable other purposes, including metallurgical and chemical processes. It was rapidly superseding locally generated steam-power, and was a rival to the small and moderate-sized gas and oil engines. It had made practicable the use of water-power through the generation of electricity in bulk at the natural falls, from which the power was transmitted to the consumers, sometimes at great distances. The greatest element in reducing the cost of electricity was the provision of a good load factor; in other words, the utilisation of the generating plant and mains to the greatest extent during the twenty-four hours of each day throughout the year. This was a far more important consideration than the size of the station, and it was secured to the best advantage in most cases by a widespread network of mains, supplying a diversity of consumers and users, each requiring current at different times of the day. The total load of each station being thus an average of the individual loads of a number of consumers was, in general, far less fluctuating than in the case of small generating and distributing systems, which supply principally one class of consumer, a state of affairs that exists in London, for instance, at the present time. There was no golden rule to secure cheap electricity. The most favourable size, locality, and number of generating stations in each area could only be arrived at by a close study of the local conditions, but there was no doubt that, generally speaking, to secure cheap electricity a widespread network of mains was in most cases a very important, if not an essential, factor. The electrification of tramways and suburban railways had been an undoubted success where the volume of traffic had justified a frequent service, and it had been remarkable that where suburban lines had been worked by frequent and fast electrical trains there had resulted a great growth of passenger traffic. The electrification of main-line railways would no doubt result in a saving of coal; at the same time, the economical success would largely depend on the broader question as to whether the volume of the traffic would suffice to pay the working expenses and provide a satisfactory return on the capital. Viewing the present trend of developments in harnessing water-power and using up the fuel resources of the world for the use and convenience of man, one could not but realise that, failing new and unexpected discoveries in science, such as the harnessing of the latent molecular and atomic energy in matter, as foreshadowed by Clerk Maxwell, Kelvin, Rutherford, and others, the great position of England could not be maintained for an indefinite period.

Hydro-Electric Power in Norway.

The question of the adequate exploitation of Norway's wealth of water-power is attracting much attention. According to official statistics the country boasts an aggregate of 15,000,000 h.p. of water-power throughout the year. A correspondent of "The Times Engineering Supplement" states that an instance of what can be done with energy and abundant capital is furnished by the Norwegian Hydro-Electric Company, which in ten years has exploited 300,000 h.p. Should new processes or other factors manage to absorb three times as much water-power, the yearly rate of development would be 100,000 h.p., and even so there would be enough water-power for, say, one hundred years. To carry out a programme of this magnitude some 500 fresh workmen would be wanted every year for the building of the power stations, etc., a total of 5,000 hands, reckoned to serve ten years each. As to the capital required, say 600kr. per electric h.p., that would amount to 60,000,000kr. per annum, and the financial side should not present any serious difficulties either. Among the industries for which electric energy should be needed on an increased scale is electric iron smelting and steel production, in which respect Norway has rather lagged behind. Export of electric energy to Denmark and Sweden is also likely to require a considerable amount of current, the estimated figure ranging from 200,000 to 500,000 h.p. The best manner of attaining the desired result is at present a moot question.

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THE ARCHITECTS' JOURNAL

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PLACE NAVONE, ROME.

(From the engraving by Acquaroni.)



GRAND STAIRCASE, HATFIELD HOUSE.

THE ARCHITECTS' JOURNAL

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The Rise of Neo-Classic

THE influence of religion, literature, and government on the rise of artistic culture became most pronounced in Italy during the first half of the sixteenth century. In the countries adjacent to the Peninsula the minds of men were steeped in mediævalism; they were too backward to comprehend great events then taking place. The neo-classicist brought a simple doctrine and entailed a scholarly study of the antique. The mediævalists, on the other hand, steeped in religious superstition, required more complicated theories and more intricate forms of expression, hence the late survival of what moderns call the Gothic tradition in those countries distant from the sunshine of the Renaissance. The time-honoured architectural ideas of Europe were about to be directed into newer and more intellectual channels: for a precurrent of new thought was soon to sweep aside the old, raised perhaps unconsciously in the Dark Ages. The European intellect was roused from its torpid mood by the contact of classic ideas. The knowledge and power of the artists was advanced. The most imperceptible channels the movement gradually enveloped the countries of the North, bringing in a passion for excellence and beauty, a love of the past, and a desire for acquaintance with the masterpieces of antiquity whose existence prior to this turbulent period had been unsuspected.

It is practically impossible to analyse or determine the causes which evolved the period of cultured Italy known as the zenith of the Renaissance; but we, from the vantage point of our own time (in the light of the cosmopolitan character that neo-classicism has since assumed), regard merely as a local manifestation.

The salient features, however, can be clearly understood. First we must note the extraordinary rise of the Catholic Church, not merely as a religious power, but as a widespread force headed and directed by the pious Pope Julius II., dominating the whole of the Peninsula from Rome. This factor led to the gravitation of noble families to Rome; then ensued social rivalry, giving opportunity to a band of inspired artists. Their patrons were ready to spend their wealth. The patience was waiting. The architects and other artists seized their opportunities and gave tangibility to the latent propositions.

Julius II. was succeeded by Leo X. of the powerful Medici family, a man intensely sympathetic with the arts, and the domination of the Church was extended to embrace the development of architecture and its kindred arts. It only remained for the artists, trained in every part of Italy, to be brought into contact with the venerable monuments of Rome to ensure the stability of the academic and architectonic culture which has since formed the basis of all modern achievement.

The Italian architects of the first half of the sixteenth century were more than originators of a definite style; they must be regarded as the masters of the whole movement the neo-classic movement has since assumed.

In many cases their work almost attained to perfection, and they remain to-day the most dangerous competitors we have to meet if we are at all ambitious to excel in our profession. It is essential for us to understand how the movement started, to dwell on the inspired masterpieces of Brunelleschi and his successors, to penetrate the maze of complexity which envelops the early work in northern Italy; but it is more important to understand and estimate at its proper value the profound impressiveness and direct force of expression which is characteristic of the great period of the culmination in Rome.

Between the years 1506-1550 the whole period is contained. The year 1492 witnessed the discovery of America and the final expulsion of the Moorish element from Spain; it marked also the decline of the prosperity of the Republic of Florence. Other dramatic events followed in rapid succession. Charles the Eighth of France, at the instigation of Ludovico Sforza of Milan, begins a campaign against Naples, bringing in a period of calamity for the whole of the Peninsula, and letting loose Germans, Frenchmen, and Spaniards to ravage and despoil, and for the ensuing period of three hundred and fifty years oppression reigned.

The league of Cambrai, a concert of the Powers of France and Spain with the Pope and the German Emperor, took action in 1508 against Venice, and for twenty-one years the conditions in Italy were anarchical. Fortunately for the arts Rome and Venice were the least affected, for Rome secured her ascendancy by alliance with the enemy, and Venice, by reason of her strength, maintained her independence.

Owing to the intrigues of Pope Clement, Rome suffered the indignities of siege and pillage in 1527 at the hands of Charles of Bourbon, a catspaw in the power of Charles V. of Spain. From this Rome soon recovered, for the struggles of those days did not exercise deterrent influences on the peaceful arts, neither did they destroy property, as they do to-day. The foregoing struggles certainly retarded the arts in northern Italy, but they tended to consolidate the position of Rome as the seat of artistic culture. After 1530 Venice and Verona found comparative security to build those treasures of design which are among their chief glories. During this period of war, architects became engineers and turned their talents to fortification building. It was this necessity which developed in Sanmicheli that wonderful austerity and simplicity of manner which ennobles his buildings.

In the most noted works of the period of the culmination in Rome there is to be seen a dominant characteristic expression; but that is meant breadth, generality, universality, repose; a reverent desire to express the monumental in architecture, to abstract from the models of antiquity all that is structural and eternal; to sweep away uncertainties, to indulge in facility of composition and subtlety of modelling, as well as to embody the elusive secrets of pure architectonic value. When Bramante gained recognition as a master of

architecture he was acclaimed for his new tendencies; he was credited with refusing all debatable elements antagonistic to pure classical expression. But we must not forget the pioneer labours of Brunelleschi, Alberti and Michelozzo. The work of Bramante reveals a remarkably inventive mind, especially in the adaptation of classic models to the requirements of his time, but it must not be overlooked that he was in a better position than his predecessors. Bramante had great power of assimilation; he summed up the Lombardic tradition in his remarkable church of Santa Maria delle Grazie at Milan, and at Rome produced the

inimitable Cancellaria (1495-1505), a building dissimilar.

The Renaissance during the influence of Bramante and the next fifty years takes on the character and rhythm of a classical revival, and in this regard is instructive as well as being dissimilar to the work produced during the earlier stages. It was successful, it was logical, it was inevitable and true. For there exists no shadow of a doubt that the work of the first half of the sixteenth century was immeasurably superior to anything which had preceded it. Neo-Grec had come, and was being.

A. B.

Notes and Comments

Pisé de Terre.

OUR article entitled "Plain Words on Pisé de Terre" in the Journal for September 10 has brought us many expressions of opinion for and against the use of rammed earth, chalk, and similar substances to form the walls of habitations. Two letters on the subject have already appeared in our columns and further correspondence is invited. There is no need, we trust, to advise abstention from *argumentum ad hominem* a method of controversy that one would have supposed to be obsolete by now. Its unfitness to the subject under discussion is glaringly obvious; for such a question surely could and should be debated quite dispassionately and impersonally, as we trust that it will be in our columns, which are freely open to it, providing it is conducted with urbanity and fairness, and as we have no doubt that it will be; Mr. H. S. Goodhart-Rendel's letter, which we have much pleasure in printing on a later page, may be taken as a fair example of "light without heat," with the strength in the argument rather than in the language. We shall be glad to see this matter thoroughly threshed out to a definite issue if possible, whether or not one contrary to our own views on the subject. In the meantime we shall of course stand aside from the controversy, which we shall watch with keen interest but strict impartiality.

Development of the Cenotaph Memorial Motif.

Development of the Whitehall Cenotaph motif was very safely prophesied. An artist seldom reaches finality at the first attempt especially when tied for time. Sir Edwin Lutyens has evolved for Southampton a design that, so far as can be judged from a photograph, is a distinct improvement on the Whitehall memorial. Gate piers, with a wall and a seat, at the base of the monument, and on the cenotaph the recumbent effigy of a soldier, are features that add considerable interest, although they may certainly be held to detract a little from the severe simplicity that for some tastes is the chief virtue of the original Cenotaph, which has so taken the popular fancy that demands for replicas are, if the newspapers can be trusted, overwhelming Sir Edwin, who, moreover, is in much request for superintending the raising of the war stones which he advises for the commemoration of our brave dead. His conception of "one kind of main monument throughout, whether in Europe, Asia, or Africa" is unquestionably noble, and his commendation of it is almost poetical. If it is inevitable that the Cenotaph idea shall spread throughout the world, one's doubt as to its universal fitness is tempered by gratification that so simple a style should make so wide and so strong an appeal. The City of London's memorial, to front the Royal Exchange, is to be designed by Sir Aston Webb.

"Let Builders Build."

This very reasonable proposition stands at the head of a leading article in a Welsh newspaper, and the almost pathetic simplicity of it suggests the rather unpleasant inference that builders are in some way hampered from the peaceful pursuit of their calling.

That unhappily is the hard fact; and they see and accept the situation meekly, and as a matter of course. But, as our Welsh contemporary reminds us, Sir Kingsley Wood, of the Ministry of Health, has revealed the possibility of making use of the knowledge and skill of "small builders" by encouraging them to build houses that the local authority could advantageously purchase, securing profitable employment for the builder, while the corporation would get more economical results than would be obtainable from less experienced and less efficient men. "If," says the writer in the "Cambrian Leader," dealing with local conditions, "the suggestions of Sir Kingsley Wood can be carried out, half a dozen builders in the town, a prominent builder assures us, who are at present unable to do anything towards relieving the shortage, could be building houses within a month. What they need is just a guarantee that when houses are finished they can back the cost of them, plus a fixed percentage for profit." Our contemporary's commendation of the system is so well put that we cannot refrain from quoting it. "Nothing of course," he says, "must be allowed to slacken the efforts of the public authorities in the prosecution of their large schemes, but the hope is that the position is such that we cannot afford to lose the assistance in our dire need of those who, given adequate facilities, are the best qualified to assist in meeting the demand. That has been from the outset a favourite content of our own."

City of London's Housing Scheme.

Last Thursday a housing scheme involving an expenditure of two millions of money was put before the Corporation. It has been hailed as a tremendous advance, but the City of London can easily afford to spend money in a good cause—Mansion House funds have attained to the seven-figure stage—and, as the chief of the Empire and the financial headquarters of the world, the City certainly cannot afford to be niggard. From the interesting statistics with which the scheme is fortified, it appears that the City's resident population is about 14,000, but this insignificant total is swelled to 400,000 by counting in the number of workers employed in the City during the day and sleeping outside its boundaries. Obviously the City is under an obligation to house these workers, if only because most of the available land in the City is worth forty or fifty pounds a superficial foot—a price which would make the building on it of working-class colonies a wildly fantastic act of profligacy. In these exceptional circumstances, the City of London has been specially exempted from the obligation imposed on borough councils to build within their own boundaries. A quarter of a million of the money will be spent in building a colony as far away as Epping Forest; this deduction being made in favour of flats to be built in Southwark, Lambeth, and the Old Kent Road. Thousands of houses, to accommodate about ten thousand persons, are to be built on a site between Higham's and Chingford, and it is recommended that the number of houses to the acre shall be fifteen and occasionally

; the usual number—twelve to the acre—being
ered an unnecessary limitation on the borders of
Forest.

Town Development and Transit.

pping Forest is nine miles from Liverpool Street
station, there arises the rather serious question
p fares and quick transit. It has been very keenly
d that nine miles of slow travelling at three-half-
a mile would absorb too much money to form an
ical item in the scheme. Dr. Addison has
d the Government to arrange for workers' fares,
is hoped that greater speed will follow electrica-
the railways. With the mention of transit, one's
of a coming Arcadia are immediately dashed by
brance of the exorbitant cost of power and the
uent high price of everything dependent on it—
g, lighting, transit. Truly, housing is a compli-
business, inextricably interwoven with a thousand
e other issues. Two great alternating fears about
ss the mind of the impartial observer—that the
demand for economy may degrade the dwelling
inmates, or that dear building and consequent
ents may accentuate with tenfold intensity the
ate evil of overcrowding: in all which questions
hitect holds at least a watching brief.

Transit and Town-planning.

raction between housing and transit being natural
vitable, it is strange that the two subjects are still
a need of regular and systematic co-ordination. A
te circle of the "wheels of chance" has come
Formerly the railways created the dwellings;
ne dwellings are necessitating railways, or other
of quick transit over distances—nine miles, for
e, between City office and suburban dwelling—
ould have been impossible to traverse night and
g, day in and day out. But the railways had got
olent with monopoly to pay very much regard to
convenience; and their attitude was very faithfully
d in the colloquy between the irate passenger and
rd: "Surely railways exist for the benefit of the
" "Not at all, sir. It's the other way about:
lic exist for the benefit of the railways." And it
whatever it may be now. But now that motor
a has come into formidable rivalry with the steam
tive, and aircraft transit is rather more than the
ram of an imaginative inventor, the whole question
k travel has come under revision, and the trans-
mittees will necessarily take into account the
to which the question of housing is involved.

Bridges in Decay.

ll also have to consider very carefully how far the
y of bridges is involved. In many parts of the
it has been found necessary to strengthen or to
bridges that were unable to bear the ever-increas-
rdens put upon them by traffic of constantly
ited volume and weight. Bridges that cross the
s in London have nearly all made it ominously
at they were constructed for much lighter loads
ose that of late years have been imposed upon
like Lambeth Bridge, they have threatened
pse, or, like Southwark Bridge, they have become
row, or have been found too steep of gradient,
len exigencies; and now Westminster Bridge is
be rapidly qualifying for demolition. Alarmists
that it is the tramways that have ruined it, and
e same fate is likely soon to overtake Blackfriars,
however, is a much younger as well as a much
gly bridge than Westminster. In the circum-
Lieut.-Colonel Coleman's brief but practical
of bridges, printed on a later page, is timely as
useful; but we could wish that architects would
n having more to say on the design of bridges.

A Notable Designer of Furniture.

Gimson, whose fine head and stalwart figure were
to many architects, and who was himself an
t, has died at the height of his exceptional powers

as a designer of furniture. In this he was an architect
of strong individuality. Not that he was insensitive to
outward suggestion and external influence. Far from it.
Mr. Mervyn Macartney, who knew him intimately and
admired him exceedingly, tells us that the cottages
Gimson built in Gloucestershire are "real Gloucester,"
so extraordinary was his power of absorbing the soul of
his environment and of giving it true expression. His
sincerity in his art, and his ability in design, were
equally conspicuous; and his so-called "individualism"
was never aggressive, and was rendered innocuous by
his tractability, common sense, and natural kindliness of
temperament.

The Plates Described

Foulislea House, Ampthill, Beds.

ABOUT Mr. Hanslip Fletcher's drawings there is
always a refreshing absence of stiffness. He gets
his effects without the slightest suggestion of
laborious effort; and he is especially happy in catch-
ing the individuality of a building without exaggerating
its salient features. Foulislea House, which is clearly
of the early eighteenth century, is one of the outstanding
features of Ampthill, the bay over the porch, the mellow
brickwork, and the excellent grouping of the windows
imparting to it a sedate air of distinction. (Page 379.)

Composition Design.

This composition by Mr. E. H. Cornes, of Liverpool
University School of Architecture, is chiefly remarkable
as being the work of a first-year student. The capital
underneath the columns does not look altogether happy
in that unaccustomed position; but, as a whole, the draw-
ing is certainly of excellent promise. (Page 383.)

Elevation of Hotel, Louis XVI. Style.

Organic decoration gives this frontage uncommon
dignity and grace, the chief effects being got from the
long-and-short arrangement of the vertical lines, which
are pleasantly varied by the horizontals above and below
the fluted pilasters. Simple as the fenestration is, its
fine spacing will repay careful study; but opinions will
differ as to the effect of differentiating the shapes
and sizes of the windows on the ground floor. Person-
ally, we think it a stroke of genius thus to break away
from symmetry and monotony without creating an
appearance of lop-sidedness. The doorway, with its
originality of panel decoration, its singularly happy
framework, and its graceful cartouche, is rather too
ornate to be quite in keeping with the general sedateness
of the front. (Page 385.)

Project for Façade of an Hotel de Ville.

Regularity of feature may not be the highest type of
beauty, but it is nevertheless appropriate to a town hall,
to which one looks for sobriety and logical consistency.
In the Hotel de Ville shown by our double-page plate,
these qualities are very conspicuous, but mere repetition
mitigated by the central and flanking bays, in which
Dumont allows himself much greater freedom and shows
considerable originality in form and detail. (Pages 390,
391.)

General Offices of the Albion Motor Car Company.

To give architectural character to premises pertaining
to manufacture never entered into the conception of
architects of a former generation, unless the idea was
suggested to them by non-professional critics, to whom
it was blandly explained that the thing could not be done.
We have now got to the position that it cannot be left
undone, business men being fully awake to the value of
good design in factory, warehouse, or show-room. The
design shown on page 395 is an admirable example
of the dignity which may be imparted to business
premises without denying them one iota of utility, but, on
the contrary, investing them with increased efficiency.
(Page 395.)

Architectural Causerie

IT is curious what strange devices have, in the course of years, crept into architectural practice, more especially in the way of corrupted forms of design. The old writers were particularly averse to illegitimate procedure, and one, at least, who translated Palladio soon after the Restoration, devoted a chapter of his book to the subject: "Of Errors." Two or three lines extracted from this delectable work are given hereunder: "It seems to me not unfit here to acquaint the Reader of many abuses, which being brought about by the barbarous, are yet observed to the end that the studious in this art may avoid them in their Works and understand them in others."

* * * *

Inigo Jones made curious departures from the first works he had studied in Italy, until experience taught him the value of simplicity. Wren could pile Pelion on Ossa, and both on the lower summits of Olympus, but his work lacks the distinctive mark of his predecessors, because he lived in the age of the full-bottomed wig, and either borrowed his ornament from France or handed it over to the craftsmen following Grinling Gibbons. Neither Kent nor Chambers was free from mistakes in composition. The Adam Brothers refined the life out of their own particular manner by thinning it to suit the Macaroni palate. Soane was obsessed with the idea of tattooing his buildings in order to go one better than the men from Scotia, and not one of the whole band of architects of the eighteenth century turned out a really perfect design, for the simple reason that such a feat is beyond human capability. Yet, with all the faults of the old work, how immeasurably superior it is in tone and quality to the ill-mannered conventions of to-day.

* * * *

In spite of the low standard of the vernacular, we can at least claim to have made a start towards picking up the old order of things; but too many tricks prevail to please the specialised taste. Why is it that façades are worried with heavy rustications?—that cartouches still creep like snails over the fair face of the stonework?—that designers find it essential to block their columns in an absurd manner?—that mouldings are coarse, pediments broken, ironwork clumsily designed, and ornament resembling the switchy tail of poor Frizzle hangs from the extremities of architectural features for all the world resembling the hairy appendage of the famous equine, "from the nail on the barn door"?

* * * *

An architect, during a recent conversation with a distinguished lady, endeavoured to make out the case for present-day architecture. The lady listened patiently to his impassioned discourse, and then replied: "Architecture will never be the same as it was, because people have no conception of taste, and we are all losing the art of living gracefully." What can we expect when the people who commission architects fail to realise that scholarly architecture is the finest commercial investment? They have a better understanding of such things in America.

* * * *

My gossip this week endeavours to encompass a few of the defects of modern architecture. The full list of offences would frighten my audience, so I have torn it up. When novelists make mistakes in describing buildings, small wonder that the public are confused and flight shy of history. It is my firm belief that the majority of the people have no comprehension of what the past implies; they simply live for the moment, and are quite oblivious of their surroundings; even reputable writers are careless, with the possible exception of Mr. Arnold Bennett. Let us take, for example, the usual description of a staircase. We are told that a

certain person "descended the steps very slowly, leaning heavily on the banisters." Now the term banister is a corruption of baluster. The error originated in the seventeenth century. It was repeated in many of the acts regarding the rebuilding of London after the fire, and so has survived to the present day. How many people, apart from architects, understand that balusters are small columns of varying design, some turned square; how many can date a staircase by examining the detail of these features? We are told that in the early days of turnery the dimensions and form of balustrades varied according to the fancy of the workmen. In Wren's day the balustrade was one of the features of design. It appears on the staircases of the period; the gallery fronts were sometimes enriched with orderly formations of balusters; altar rails, balcony platforms, and flat-topped roofs were never considered complete without an elegant balustrade. Bell of London knew the value of the baluster when he constructed the Exchange and the Duke's Head Inn to enrich his native town. Pratt, who appears to have had a hand in the design of Coleshill, according to the evidence, crowned the roof and ringed the balcony with a balustrade. In the days of Queen Anne a baluster cost approximately three good shillings a running measure.

* * * *

Sometimes when I consult light literature I reach for the roof-tree. Yet I have never seen one. Or else I chance upon a sentence describing the threshold over a door, or the lintel forming the step. Yet we may look in vain for such slips of the pen in the works of Lewis Stevenson or Thomas Hardy, because the knowledge of building described by these authors was exceptional.

* * * *

When the novelist writes of the interior of a house he attempts ambitious heights; he describes the centuries regardless of truth. To him the past is simply a pot-pourri of doublet and farthingales, knee breeches, wigs, and gallantry. He should like to found a hostel for incipient novelists, would fix them up in an eighteenth-century manor house where they would undergo a six-months course of architecture on the Pelman system, taking one of the advertised huts especially to heart, and using pencils all day long. They would hear me say "Balusters as they walked down stairs; after memorising the design they would draw an example to scale, and so I should go on through the whole list of architectural features until they passed the final examination. They would be careful after such a maddening brain storm."

* * * *

Among the errors of modern practice, that of crowding façades with ambitious ornament is the most deplorable. Many people have tried to locate the reason for the uncalled-for display of strange growths, and tend to confuse the lines of an otherwise reasonably disposed house front. It is not so difficult to trace the cause, for it arises in the main from timidity, lack of confidence, and a dislike of plain surfaces. Designers work on the elevation of a building and settle the lines in a reasonable way. Then they go through a period of depression; they feel dissatisfied with their design, and in despair start worrying their work with ornament. Formerly it was the practice to refer to drawings in the style of Walton, to cast shadows for accuracy and to determine the value of projections as well as to consider the necessity for varying the surface of the material used for the different stories. On account the old fellows seldom erred in the selection of ornament. Very shortly I hope to enlarge upon the theory of shadows, and perhaps give a summary of the trials of Peter Schlemihl.



FOULISLEA HOUSE, AMPHILL, BEDS.

(From a drawing by Hanslip Fletcher.)

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Bridges: Their History and Development

By LIEUT.-COLONEL T. E. COLEMAN, R.E. SERVICES.

THE most primitive form of bridge consisted of rough trunks of trees thrown across a stream or ravine.

This was followed by suspension bridges of fibrous material. Rude corbels and lintels of stone were afterwards constructed, and eventually the masonry arch was evolved. At a later date cast-iron, wrought-iron, and steel bridges were constructed. Ordinary concrete and reinforced concrete are also now largely used for the construction of bridges, more especially since the improved processes of cement manufacture have produced a stronger and more uniform quality of artificial cement. Wooden bridges are chiefly used for temporary purposes, as they can be constructed with ordinary beams and timber trusses. In undeveloped countries, where the use of steel or cement is prohibitive on account of the high freightage and transport charges, and where a plentiful supply of timber is available, wooden bridges are sometimes adopted for permanent works on the grounds of economy. The largest span timber-framed bridge ever constructed was the Wittengen bridge over the Rhine. This bridge had a span of 390 ft. It was destroyed in 1758, but was destroyed by fire in 1800. Ordinary concrete bridges are usually constructed with masonry spans, but, except for small spans of an unimportant character, this form of construction is being superseded by reinforced concrete.

The use of reinforced concrete bridges has largely increased during recent years. They are comparatively inexpensive, and frequently a plentiful supply of sand, gravel, or of stone, which may be crushed to the sizes required, is available on the site or in the immediate vicinity. Reinforced concrete bridges may be designed as masonry arches, or some form of girder construction, or open or solid. Iron or steel bridges differ considerably in design, and are known as "arched," "plate," "plate or solid girder," "lattice or trussed girder," "cantilever," and "suspension" bridges. Where high piers are required for the support of bridges an extensive framework of steel is sometimes adopted in lieu of masonry piers. Such bridges are then known as "cantilever" bridges.

Bridges with movable decking, etc., comprise various types known respectively as "bascul," "lifting," "swing," or "traversing," "swing," and "transporter" bridges. Another form of bridge is that known as a "floating bridge," or "pontoon" bridge. The decking and track is supported on floating barges or pontoons moored off on piers built up from the bed of the river.

Masonry Bridges.

The earliest bridge of which any authentic record is known is at Babylon, over the river Euphrates, and mentioned by Herodotus. The bridge consisted of masonry piers, supporting a roadway of wooden beams. It was erected about 780 B.C. The earliest recorded bridge in Europe was the Pons Sublicus, Rome. It consisted of wood beams supported on timber piles, and was built about 620 B.C. Probably the oldest bridge in existence is over the Diz at Dizful, Persia. The bridge is 1,250 ft. long, and consists of a series of twenty masonry arches, each 23 ft. span, with masonry piers 29 ft. apart. It is over 2,000 years old, and was built about 300 B.C. The oldest existing arched masonry bridge in Europe is the Pons Fabricius, over the river Tiber at Rome. It was built about 80 B.C.

Hadrian's Bridge (Pons Aelius), over the river Tiber at Rome, now known as the Bridge of St. Angelo, was originally erected about A.D. 13. The bridge has since been reconstructed. It consists of a series of masonry arches, the largest span being 62 ft., and the width 50 ft. The Bridge of Sventovid, over the Danube (Hungary), was built about A.D. 103. It was constructed of masonry piers and timber arches. Including the approaches it

was about 4,000 ft. long, with a width of 60 ft. It was afterwards destroyed, but some of the piers still remain.

The first London Bridge over the river Thames was built of wood in 1014. An arched stone bridge—generally known as "old" London Bridge—was commenced in 1177, and completed in 1209. A number of three-storied timber houses were built on the bridge, and having cellars in the piers. There was a roadway 20 ft. wide between the houses for the ordinary traffic. The existing London Bridge was commenced in 1824, and completed in 1831. There are five masonry arch spans, comprising two spans of 130 ft., two of 140 ft., a centre span of 152 ft., with a height of 32 ft. above high water mark, and a width of 56 ft. The bridge itself cost £450,000, but the total cost, including approaches, was £1,460,000. The width of the bridge was afterwards increased to 68 ft. by carrying the footways on projecting stone corbels. Total length, including approaches, 1,005 ft. The largest span masonry arched bridge is the bridge at Plauen, Germany, which has a span of 295 ft., width 56 ft., and which cost £26,000.

Another notable masonry arched bridge is the Trezzo Bridge, over the river Adda (North Italy), having a span of 250 ft. The largest span masonry arched bridge in England is the Grosvenor Bridge, over the river Dee, at Chester. It consists of two small abutment arches, with a main arch of 200 ft. span. Height from springing line 40 ft. Total length, including approaches, 410 ft. Total width, 36 ft. Cost, £36,000. The wooden centering for this bridge cost over £500.

Cast-iron Arched Bridges.

Coalbrookdale Bridge, over the river Severn, was the first cast-iron arched bridge to be erected. It was built in 1776, and consisted of a semi-circular arch, 100 ft. span, with two smaller side arches. The arches were of cast-iron, built up in sections, comprising five ribs each, and having a total weight of 380 tons of metal. Southwark Bridge, London, was one of the longest cast-iron arched bridges ever constructed. It was erected in 1819, but removed in 1913. The bridge comprised two side spans of 210 ft. each, and a central span of 240 ft.

Iron Composite Bridges.

Cast-iron bridges were succeeded by a composite type, constructed of cast-iron and wrought-iron members. Later, both steel and iron were used. Westminster Bridge, over the Thames, provides a well-known example of a cast-iron and wrought-iron composite arched bridge. It comprises seven elliptical arch spans, having a central span of 140 ft., and six spans varying from 110 ft. to 135 ft. The total width of waterway is 924 ft. The bridge is 90 ft. wide. Total length, including approaches, 1,200 ft. Total cost, including approaches, £230,000.

The St. Louis Bridge, over the Mississippi, is one of the largest steel and iron arched bridges ever erected. It is constructed with steel ribbed arches, and comprises a centre span of 520 ft., with two side spans of 502 ft. each. The width is 54 ft. The bridge carries a double railway track, with a roadway above for ordinary traffic. The piers and abutments constructed are of coursed granite blocks, costing 7s. 6d. per foot cube. The steel-work cost £60 per ton fixed complete. The wrought-iron cost £22 per ton and cast-iron £16 per ton fixed complete. The work was commenced in 1870 and completed in 1874.

Steel Arched Bridges.

The largest steel arched bridge is Hellgate Bridge, over the East River, New York. It carries four lines of railways. The bridge has a span of 1,017 ft., and a width of 93 ft. The top of the arch is 300 ft. above low water mark, and the bridge floor is 160 ft. above

low water mark. The bridge abutments consist of two masonry towers, each 240 ft. high. The west tower is supported on twenty pneumatic driven concrete caissons, carried to a depth varying from 60 ft. to 120 ft. below the ground level. The deeper portions of the caissons necessitated a working air pressure of 52 lb. per square inch.

Tubular Bridges.

The largest span tubular bridge is the Britannia Bridge, over the Menai Straits on the L. and N.-W. Railway. There are two railway tracks, and each track is carried in a separate tube of four spans. The tubes are 15 ft. wide, 30 ft. deep, and constructed of wrought-iron plates. They comprise two central spans of 460 ft. each, and two side spans of 230 ft. each. Height above high water mark 125 ft. Total length, 1,512 ft. Total weight of ironwork, 10,500 tons. Cost, £600,000. Commenced 1846, completed 1850.

Plate or Solid Girder Bridges.

The first wrought-iron plate girder bridge was built in 1841 at Glasgow, having a span of 32 ft. The roadway was supported on six wrought-iron plate girders, the width of the roadway being 25 ft. One of the longest plate girder bridges is that over the river Susquehanna at Towanda. It carries two railway tracks, and comprises thirteen spans of 130 ft. each and one span of 120 ft.

Lattice or Trussed Girder Bridges.

The largest span steel lattice girder or trussed girder bridge is the St. Louis Bridge, over the river St. Louis (U.S.A.). It comprises three spans of 668 ft. each. The lattice or trussed girders are 110 ft. deep at the centre, 35 ft. apart, and support a double-deck track. The upper deck is a carriageway, whilst the lower deck carries two lines of railway. The steel trussed girder bridge over the river Maimi, Elizabethtown, Canada, has a single span of 586 ft. The lattice or trussed girders are 80 ft. deep at the centre.

Cantilever Bridges.

The longest *cantilever bridge* is the Forth Bridge, near Edinburgh. It comprises two cantilever steel latticework spans of 1,710 ft. each (the longest bridge spans ever constructed), and twenty-four land spans, varying from 42 ft. to 688 ft. each. The main piers are of masonry, with concrete foundations excavated in rock to a depth of 70 ft. below high water mark. Height, 150 ft. above high water mark. The bridge carries a double-track railway. Total length, including approaches, 8,296 ft.; width, 30 ft. Weight of steelwork, 51,000 tons. Commenced 1883, completed 1890. Cost, £1,700,000.

Iron Suspension Bridges.

The earliest iron suspension bridge on record was constructed in China about 150 B.C. The bridge decking was suspended from heavy iron chains anchored in the ground. Suspension bridges of comparatively small span were erected in Great Britain about 1740. The Menai Suspension Bridge (North Wales) was constructed in 1819. It has a clear span of 579 ft. The total length, including approaches, is 1,710 ft. Total cost, including embankments, £110,000. The roadway is 102 ft. above high water mark. Clifton Suspension Bridge, near Bristol, has a span of 705 ft. It is 31 ft. wide, the roadway being 245 ft. above water level. Cost, £10,000. Completed 1861.

The largest span *suspension bridge* is Brooklyn Bridge, New York. The central span is 1,596 ft. wide, suspended from two towers, 274 ft. high, with land spans 930 ft. wide from the towers to the anchorages. The foundations are carried 80 ft. below the surface of the water. Total length, including approaches, 6,580 ft. The width is 85 ft., and includes two railway tracks, two carriageways and promenade. Height above sea level, 135 ft. Cost, £1,800,000. Completed in 1883. The Niagara Suspension Bridge has a span of 822 ft. It is

24 ft. wide, and the roadway is 245 ft. above the level. It is provided with two platforms, the upper carrying the railway track and the lower one forming a road track for ordinary traffic. It was commenced 1852 and completed in 1855. Cost, £80,000, or 8s. per foot run.

Ordinary Concrete Bridges.

The first ordinary concrete bridge of large span for heavy road traffic built in England is the Axminster Bridge (South Devon). It was completed in 1876, crosses the river Axe, between Seaton and Axminster. The bridge comprises three segmental arch spans, the centre span of 54 ft., and two side spans of 33 ft. The foundations, abutments, piers, arches, and parapets are built entirely of ordinary concrete deposited in situ. Total length, 156 ft. Total width, 26 ft. The longest span bridge in Europe built of ordinary concrete is the Coulouvreniere Bridge, Geneva, over the river Rhodan. It comprises four segmental arch spans, having two central spans of 131 ft. each and two side spans of 37 ft. Total length, 492 ft. Width, 61 ft. Cost, £68,000. Erected, 1895.

The largest span bridge of ordinary concrete yet constructed is the Rock Creek Bridge, Washington (U.S.A.). It comprises five spans of 150 ft. each, and two spans of 82 ft. each. Extreme height of bridge 120 ft. Total length, including abutments and approaches, 1,340 ft. Cost of centering, shuttering, etc., for the work, £10,000. Total cost, £170,000.

Reinforced Concrete Bridges.

The largest span reinforced concrete bridge in England is the Mersey Bridge at Warrington. It has a clear span of 134 ft., and a width of 80 ft. The longest span reinforced concrete bridge in Europe is at Ferrara (Italy), over the river Tiber. It has a single span of 328 ft. A reinforced concrete bridge has been constructed at Auckland, New Zealand, with a span of 300 ft. The longest reinforced concrete bridge is the Tunkhannock Railway Viaduct (U.S.A.). It comprises three arches of 180 ft. span and two arches of 100 ft. span. Total length, 2,375 ft. Total width, 67 ft. The railway track is 240 ft. above the river.

MOVABLE BRIDGES.

"Bascule" Bridges.

Bascule bridges, or "draw-bridges," were originally a military development of the ordinary fixed bridge. In a ditch, or moat, of a defence position was arranged a bridge having a removable gangway with one end hinged at the inner side of the ditch, and the other end hung with chains passing over pulleys, so that the bridge might be raised and lowered at the will of the occupiers. Movable bridges are now chiefly used for spans over navigable rivers and waterways.

"Bascule" bridges may be arranged with either one or two cantilever arms, each of which rise and fall vertically on a strong steel pivot or axle. The ordinary type of modern bascule bridge is provided with a short counterweight arm moving within a recess or chamber formed in the abutment, so as to counterbalance the weight of the long arm forming the bridge span. In some cases the cantilever arms are arranged to turn upwards on curved wheels. Another form of bascule bridge is designed with a sliding counterweight, having a cantilever arm and a large balance weight which is moved backwards and forwards when opening or closing the bridge. For spans of more than 250 ft. bascule bridges require very large chambers for the counterweight arms, which become both difficult and expensive to arrange.

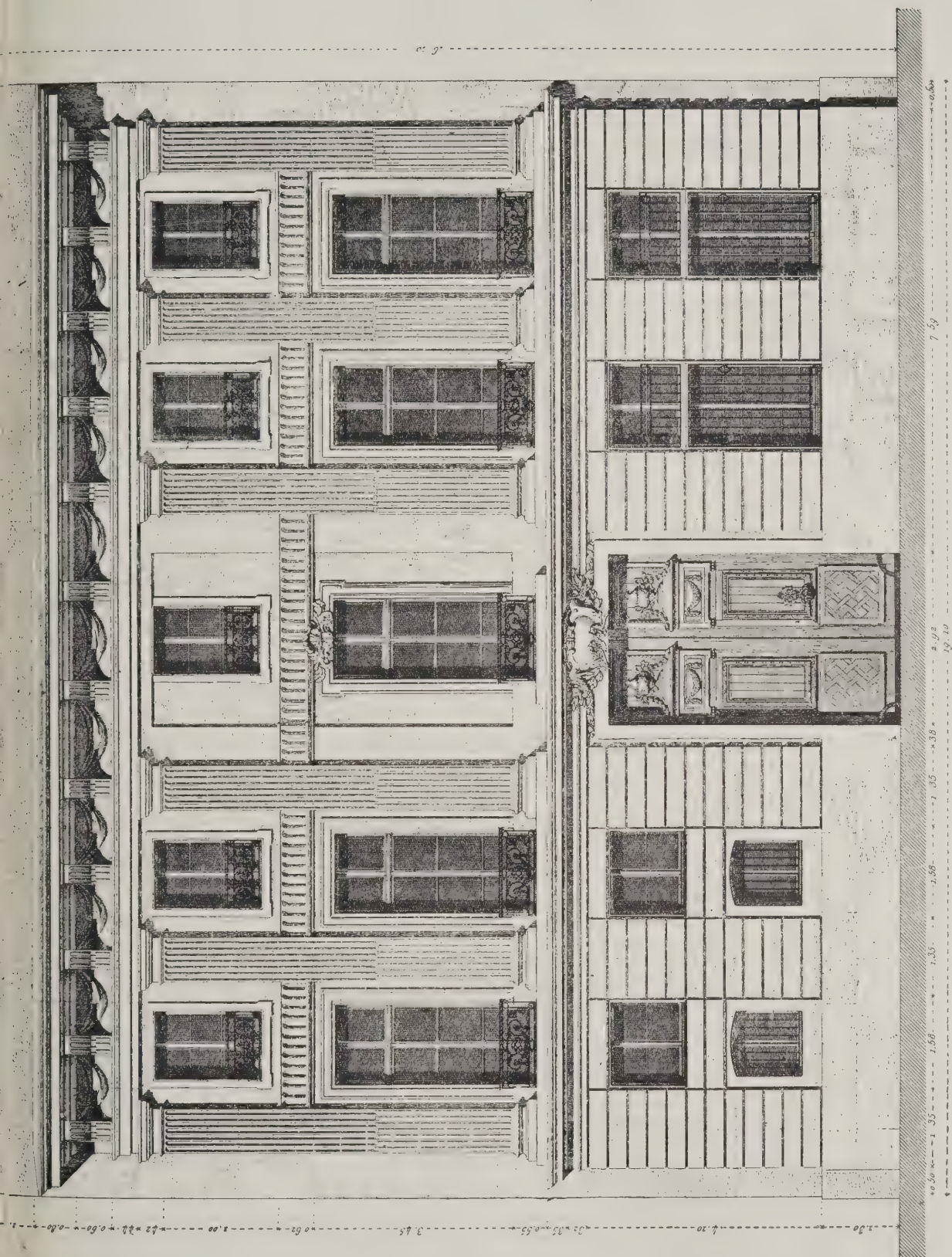
The largest and best-known bascule bridge in England is the Tower Bridge, London, over the river Thames. It has an opening span of 200 ft. The bridge comprises two fixed shore spans of 270 ft. each, and one central opening span of 200 ft. The outer ends of the two suspension spans have two large towers built of masonry encased with ashlar masonry, and connected at the top with a high level foot bridge 140 ft. above high water level.



COMPOSITION DESIGN BY E. H. CORNES.

(Liverpool School of Architecture First Year Certificate Course.)

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ELEVATION OF HOTEL, RUE DES FRANCS-BOURGEOIS, PARIS (LOUIS XVI. STYLE).
(From *Lesar Daly's Portfolio*.)

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The piers supporting the two towers are each 70 ft. and 180 ft. long, with chambers containing hydraulic machinery. The low-level opening span consists of two bascules, or drawbridges, weighing 1,000 tons each, and provided with hydraulic machinery for raising and lowering. When the bascules are raised for the passage of shipping, foot-passengers cross by the level bridge, staircases and hydraulic lifts being provided in the towers for this purpose. Total length of bridge and approach works, 2,980 ft. Width of fixed span, 60 ft. Total cost, including hydraulic machinery complete, £903,000. Erected 1894.

The Walney Island Bascule Bridge (Barrow-in-Furness) is constructed on the "Scherzer," or sliding counterweight system. It comprises eight fixed spans, varying from 82 ft. to 118 ft., and an opening span of 118 ft. Length of bridge between abutments, 1,123 ft. Total cost, including bridge, approach works, etc., £183,000.

Lifting Bridges.

"Lifting" bridges are so designed that the whole of the bridge span is raised bodily between high masonry steel-framed towers erected on the piers or abutments. They vary considerably in the form of lifting mechanism employed, but may be broadly divided into two classes, namely respectively as the "direct-lifting" type, and the "cable-lift" type.

"Direct-lift" bridges have the lifting span raised to the necessary height by means of a pair of large steel arms or levers, each working on a fixed axle within the adjoining abutments or piers which support the lift towers. These arms or levers work in a somewhat similar manner as the ordinary form of bascule bridge. The short counterweight arm of each lever is within a recess or chamber in the lower portion of the towers, whilst the long arm directly raises the movable span as required.

"Cable-lift" bridges are arranged so that the lifting span is raised between the towers by means of steel cables passing over pulleys at the top of the towers, and actuated with powerful winding machinery.

The "cable-lift" bridge over the Chicago river for the Pennsylvania Railway at Chicago (U.S.A.) comprises two steel framed towers 185 ft. high, with a steel framed span 30 ft. wide and 273 ft. long, between the towers. The lifting span is suspended from sixty-four cables (2½ in. dia.) passing over pulleys, 15 ft. dia., at the top of the towers, and attached to heavy counterweight blocks. The weight of the lifting span to be raised is 1,500 tons. The weight of each counterweight is 740 tons. The vertical travel of the bridge is 100 ft., giving a headway of 120 ft. when the water level and underside of the bridge are raised. The lift span is hoisted by sixteen steel cables (1½ in. dia.), which are independent of the counterweight ropes. The four winding drums (two in each tower) are driven by two electric motors of 300 h.p. each. The bridge can be raised to its full height in forty-five minutes. Total cost, including towers, abutments, machinery, etc., £150,000.

Rolling or Traversing Bridges.

Rolling or traversing bridges are sometimes known as telescopic bridges. They are so arranged that the road may be rolled horizontally backwards so as to provide a clear waterway for the passage of boats or ships. They are not now much used. A well-known example of this type of bridge in England is the railway bridge over the river at Arundel. This rolling or traversing bridge is arranged to run on a series of wheels. Total length, 144 ft.

Swing Bridges.

Swing bridges are usually arranged with a pivot pier in the middle of the river or channel. What are known as double-swing bridges can only be constructed where there is available open space on land for the swing of the

cantilever arm, or balance. The Clarence Bridge (Cardiff) comprises two fixed shore spans of 132 ft. each, and one central swing span of 190 ft., giving two clear openings of 72 ft. each. The roadway is carried on steel open lattice girders, supported on masonry piers and abutments. Total length, including approaches, 490 ft. Total width, 40 ft. Cost, complete with machinery, £53,500. One of the largest span swing bridges is the Omaha Swing Bridge, near New London, U.S.A. It has a central swing span of 520 ft.

Transporter Bridges.

Transporter bridges, or "transbordeurs," consist of a movable platform suspended from an electric trolley running on the underside of a high-level bridge, or on girders supported on masonry or steel framed towers. They are sometimes known as aerial ferries. The first transporter bridge was erected at Bilbao over the river Nervion in 1889. The largest span transporter bridge is the Runcorn Transporter Bridge over the river Mersey, and the Manchester Ship Canal. Total span, 1,010 ft. Total cost, including approaches, abutments, transporter platform to accommodate both passengers and heavy traffic, with overhead traveller, girders, cables, and electric machinery complete, £130,000.

The transporter bridge over the river Usk, at Newport (Monmouthshire), has a span of 645 ft. between the towers. The bridge consists of two steel lattice towers 245 ft. high, with an overhead foot bridge or platform suspended by steel cables carried over the tops of the towers and anchored to masonry blocks weighing about 2,000 tons each. The foot bridge is 177 ft. above water level, and is provided with a staircase at each end. The underside of the foot bridge carries an electric trolley, from which is suspended the transporter platform, which is 40 ft. long and 33 ft. wide. Cost of land and approach roads, £26,000. Cost of transporter bridge complete, £74,000. Total cost, £100,000.

Floating Bridges.

Floating bridges, or "pontoon" bridges, are used to a very large extent in military operations for the passage of troops, guns, etc., across rivers. They can be constructed with great rapidity, and are afterwards easily removed or broken up. Floating bridges are now seldom adopted for permanent work unless the local conditions are such that solid foundations or piers cannot be conveniently provided. The longest floating bridge in the world is the pontoon bridge over the river Hooghly at Calcutta. The road track is carried on fourteen pairs of iron box pontoons, which are securely anchored in position, and rise and fall with the tides. An opening 200 ft. wide for the passage of shipping is made when required by swinging two pairs of the pontoons and their decking so as to be clear of the opening. Total length between the abutments, 1,530 ft. Total width, 48 ft. Cost, £182,000, or £120 ft. per foot run.



LOVELACE HILL, SOLIHULL.
BATEMAN AND BATEMAN, ARCHITECTS.

Team Work in the Building Trade

[FROM A CORRESPONDENT.]

A DETERMINED and hopeful effort is being made to get rid of the difficulties which are hampering the efficiency of the building trade. Never before has it been so vitally necessary to the welfare of the country that the trade should be vigorous, productive, economical, and smoothly running. Not only are there vast arrears of ordinary building work to be made up, but the gigantic national housing scheme demands the utmost possible output of work. Yet at the moment the trade is stagnant, producing little, and at an excessive cost, and hampered by doubts, difficulties, friction, and the threat of internal war.

Building Industries Consultative Board.

Early in the summer the Royal Institute of British Architects summoned a conference to consider what could be done to restore health to the trade. Dr. Addison, then President of the Local Government Board and now Minister of Health, came and gave his official blessing to the movement. It was warmly taken up by all the representative bodies concerned, and at the end of May a Building Industries Consultative Board was founded. It contains, in equal numbers, representatives of the professions and trades concerned. Five architects, five surveyors, five master builders, and five operatives, with the President of the Royal Institute as chairman, and Mr. J. P. Lloyd of the National Federation of Building Trades Operatives as vice-chairman, constitute the Board. It has been meeting regularly at Conduit Street, and it is not too early to say that its work has already justified its existence.

Cause of Stagnation.

It faced the main problem at once. What is the reason of the stagnation in the trade? Clearly the answer lies in the vastly-increased cost of building. Why does building cost so much more than in 1914? Because labour and building materials cost more. Here the Board was faced by an inquiry along two lines. It began with materials. The master-builders at once supplied ample evidence of the facts from their own recent experience. Materials had gone up to fantastic prices, and the supply was slow and uncertain. Had Government action anything to do with it? The Ministry of Munitions has a Department of Building Material Supply which has been conducting vast operations. So the Board sent a deputation to the Ministry of Munitions to find out the facts. The Ministry met the Board in a most business-like way and put its cards on the table. It had had to face the fact that at the date of the armistice the production of bricks and other materials had almost ceased. The yards were either closed down or in a desperate condition.

Supply of Materials.

To get industries going and bring output back to normal conditions it had helped them with money and vast orders. The policy had succeeded, and the supply of material was now in a fairly safe position. But for the action of the Ministry it is clear that the shortage of bricks and other essentials would have made it impossible to embark on the housing scheme on a large scale. But if the supply is now fairly adequate, what justification is there for the fantastic prices which are being demanded? The Board, with all the facts before it, came to the conclusion that the time had come for the Government to suspend their operations, and leave the laws of supply and demand to settle the price of materials. A resolution to this effect has been sent to the Government, with a further recommendation that the building trade should be left free from any form of

Government control or interference. If the Government will act on the advice of the Board it is hoped that comparatively short time prices will come back to a reasonable level.

The Labour Question.

Next came the problem of labour—the other factor in the high cost of building. Admittedly supply is short. Many men have fallen in the war, many are still in the Army, the usual flow of recruits into the trade has been largely suspended since 1914. Older men are tired, the demobilised men have not yet got back the power and habit of steady work, and a large number of the operatives have been demoralised by the permanent system on which so much Government work was done during the war—cost plus percentage, as it is called. We have gone up largely since 1914. Whether they have kept pace with the rise in the cost of living is a debatable point. The unions say no, the masters say yes. Whatever the truth is, the rise in wages would not matter if output were satisfactory. The masters say that output has gone down deplorably since the beginning of the war, and too many men are not doing anything like a day's work for their wages. Whether or not this is officially sanctioned by the unions, there is, in fact, a deliberate policy of restriction of output by the masters. That is the masters' case.

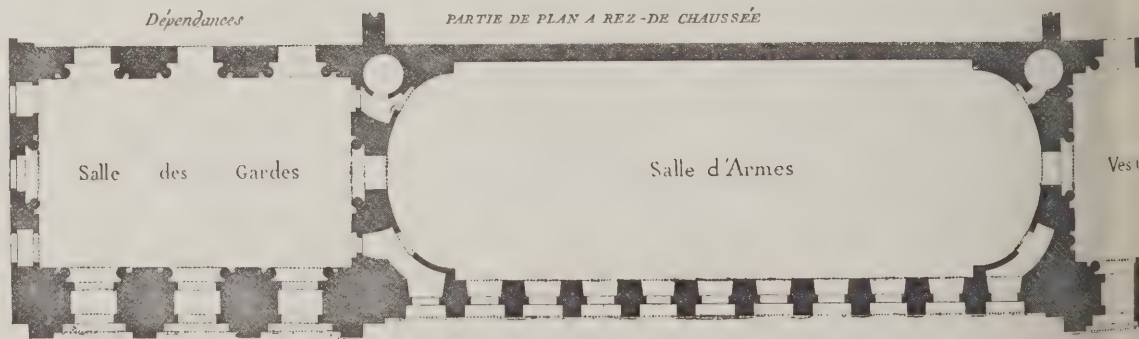
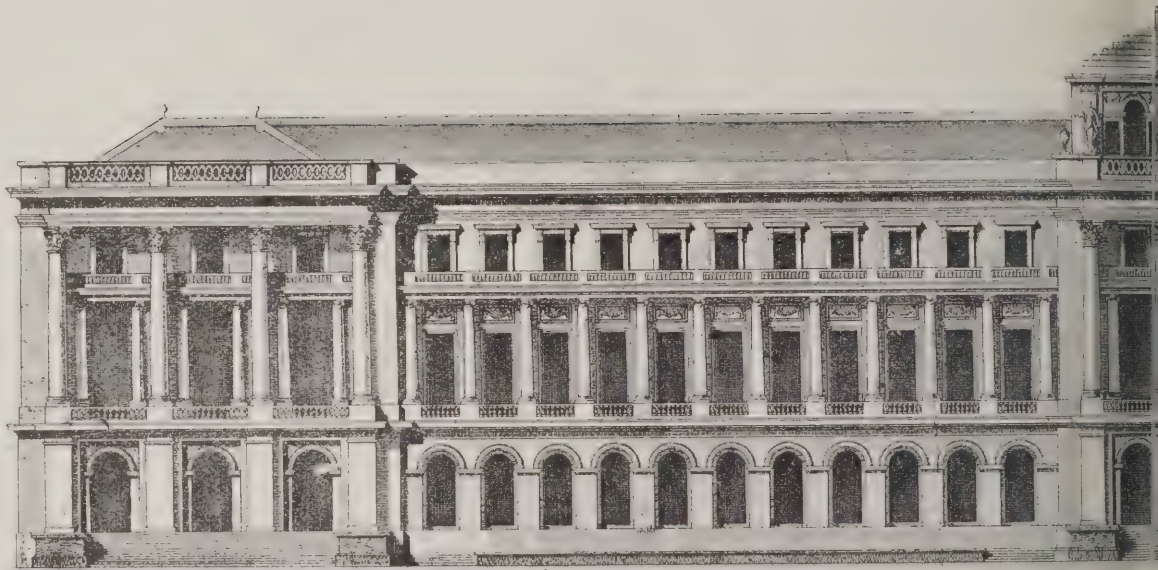
Wages and Output.

To some extent it is conceded by the operatives. They claim that "real" wages have fallen since 1914, but they admit that the methods of the Government during the war have had a demoralising effect upon many of the operatives, and have lowered the level of craftsmanship. They deny that individual output is restricted to the extent that is suggested, but they admit that it might be greatly improved by the introduction of a new spirit and a new tradition into the building trade. They claim that in the past the policy of the unions as regards wages and output was justified by the bad old tradition of cutting among the employers and by the well-founded fear of unemployment which arose from the casual nature of the trade.

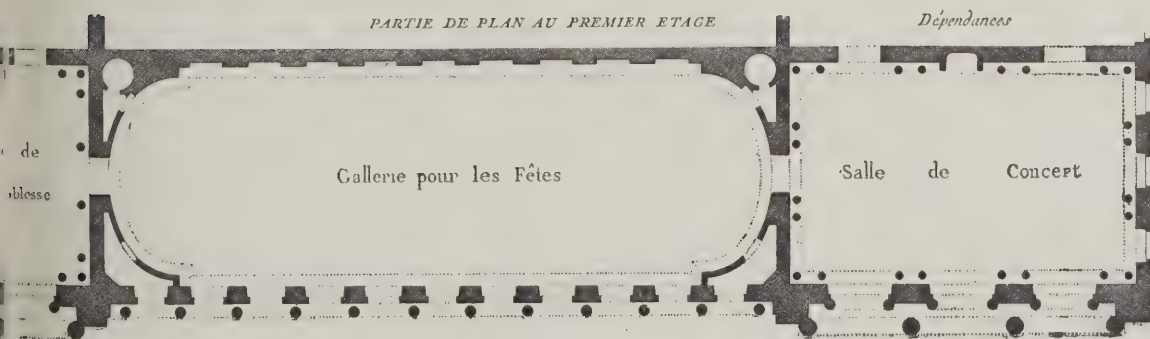
Status of the Operative.

They say that the men will never be permanently satisfied until a real change is made in the methods of the trade. They are not content, as in the past, to be simple "hands." They want a real share in the control and guidance of the industry in which they have invested their lives, and the skill. It is not a question of money but of status and functions. Most employers meet this claim with an absolute "non possumus." Those who have financial responsibility must have unfettered control of the business. They cannot share it with those who have none. But there are signs that, after all, something must be done to meet the views of the men without ruining the industry. The Whitley Council of the building trade is thinking out a scheme on the most idealistic lines. Many minds are at work, and the common sense and common interests of leaders on both sides will surely arrive at a solution without the interposition of industrial war, which must do infinite harm to the country, and cannot possibly settle the question.

In the meantime, the Consultative Board is at work on the organisation of a crusade for the introduction of a new spirit into the trade. It hopes to awaken the minds of everyone engaged in the industry that "the new spirit" that carried the nation through the war is the triumphant issue. It believes that the situation will be saved, not by higher wages and shorter hours, but by a new attitude of mind on the part of all concerned.



PROJECT FOR FAÇADE OF AN HÔTEL



Standard Specification for Roads and Sewers

STANDARD Specification for Roads and Sewers, D.91—and a General Memorandum, No. 7—has been issued by the Ministry of Health for the local authorities and public utility companies in connection with State-aided schemes under Part III. of the Housing of the Working Classes Act, 1909. The specification, which is intended to apply only to residential roads where heavy traffic is not anticipated, is drafted to cover various alternative particular circumstances of each road. For roads carrying heavy traffic the Ministry state that a more substantial specification may be necessary. All schemes for the construction of roads and sewers which have not been approved are to comply with the standard form of specification, and the Ministry will not be prepared to approve schemes deviating from it, unless they agree that the deviations are rendered desirable by local circumstances and conditions. The Standard Specification for Cottages, D.82, was published in THE ARCHITECTS' JOURNAL, Nos. 1287 and 1288. The Standard Specification for Roads and Sewers is to be adapted to local conditions and the requirements of the particular alterations made in red ink and signed by the engineer or surveyor, is as follows:

1. **Specification of Works to be Executed and Materials to be Provided for the Construction of Roads and Sewers.**—The specification with the drawings and conditions of the contract between the contractor and the local authority.

Preliminaries.

1. **General.**—The work hereinafter specified is to be executed in accordance with the drawings and conditions of the contract. The contractor is to include for all the general work necessary for the execution of the works; for the carrying out of the contract with all the necessary materials, including water, for carrying out the works; for all necessary protective works, including necessary fencing, lighting, and the protection of the works; for the provision of notices and licences, giving notices and fees; for fire, workmen's, and insurances; for the provision of tools for workmen; for the regular removal of rubbish; and for all other necessary for the completion of the works satisfactorily to the true meaning of the drawings and this specification. A suitable office, with the necessary heating, lighting, furniture, and accommodation, with proper attendance during the period of the work, is to be provided for the use of the engineer or clerk of works. Adequate accommodation is to be provided in a proper sanitary condition, wherever practicable, connected as possible with the public sewer. The ventilation thereto are to be such as to the satisfaction of the engineer or surveyor. The latrines are to be removed whenever necessary, and all work is to be made good at the end of the contract. All fences, trees, shrubs, greens, and other surrounding property are to be maintained and kept free from damage due to the works under the contract. The

works are to be executed in such order of time and place as may from time to time be directed by the engineer or surveyor.

1.—MATERIALS.

1. **General.**—All materials and workmanship are to be of quality approved by the engineer or surveyor and in accordance with the following descriptions:

Material for Foundations of Carriageway.

2. **Hardcore.**—Hardcore as far as practicable is not to exceed half-brick size and may consist of: (a) quarry refuse reasonably free from all foreign matter; (b) slag; (c) brick rubbish consisting of hard, well-burnt broken bricks, free from all foreign matter; (d) well-burnt refuse destructor clinker taken from the heap without screening and freed as far as practicable from waste metal; (e) or (insert description of such other suitable material of like nature as may be obtained locally).

Material for Surfacing of Carriageway.

3. **Stone for Waterbound Macadam.**—All material is to comply with the British Standard Specification No. 63 for sizes of broken stone and chippings. Road stone is to be (insert granite, limestone, flint, slag, or other suitable material) obtained from (insert name of quarry or other source of supply), and broken to (insert gauge).

4. **Tar Macadam.**—The aggregate for tar macadam is to be composed of broken stone, or selected slag, and is to consist of 60 per cent. of 2-in. standard gauge, and 30 per cent. of 1½-in. standard gauge; 10 per cent. of ¾-in. to ¼-in. size is to be used for filling interstices during rolling operations. In the case of two-coat work the sub-crust is to consist of 2-in. standard gauge stone, and the wearing surface 1½-in. standard gauge stone; 10 per cent. of ¾-in. to ¼-in. size stone is to be used for filling the interstices during rolling operations. The stone used is to be thoroughly dried before being coated with tar. For making tar macadam, tar is to be used which complies with Road Board Specification Tar No. 1, or Road Board Specification Tar No. 2, as specified. If Tar No. 1 has been used for tarring the stone, care is to be taken, especially in hot weather, that the tarred material has been allowed to stand a sufficient length of time to allow the tarred surface of the stones to become partially hardened, and in a tacky condition. If Tar No. 2 has been used for tarring the stone, the macadam is to be laid soon after being tarred, and the stone coated with such tar should preferably be laid when the road is quite dry, and in warm sunny weather. The quantity of tar used to coat one ton of stone is to be from nine to fifteen gallons, varying according to the gauge of the stone, the grade of tar used, the method of mixing, and other conditions.

Material for Footways.

5. **Hardcore.**—Hardcore for the foundations of footways is to consist of hard, dry, fine broken material, such as—(a) quarry refuse reasonably free from all foreign matter; (b) slag; (c) brick rubbish consisting of hard, well-burnt broken bricks free from all foreign matter; (d) well-burnt refuse destructor clinker taken from the heap without screening, and freed as far as practicable from waste metal; (e) or (insert description of such other suitable

material of like nature as may be obtainable locally).

6. **Natural Stone Flags.**—Natural stone flags for paving footways are to be (insert description of stone and size not less than 2 in. thick), obtained from (insert name of quarry or other source of supply), and free from laminations, windings, or hollows on the surface. No flag except closers shall be less than 4 sq. ft. in superficial area. The flags, except where self-faced, are to be finished to a properly tooled or sawn face, and the edges of each flag are to be cut square with each other and square to the top surface, so as to form proper butt joints when laid.

7. **Artificial Stone Flags.**—Artificial stone flags for paving footways are to be (insert description of artificial stone to be used and size not less than 2 in. thick), with sharp square edges, and of the following sizes, viz., 3 ft. × 2 ft., 2 ft. 6 in. × 2 ft., and 2 ft. × 2 ft.

8. **Tar Paving.**—The aggregate for tar paving for footways is to consist of material such as limestone, ragstone, slag, properly burnt gravel, or other similar suitable material, and should, for one-coat work, be broken to 1½-in. standard gauge, with sufficient material of ¾-in. gauge to fill the interstices during rolling operations. In the case of two-coat work the sub-crust is to consist of material not exceeding 1½-in. standard gauge and the wearing surface of material not exceeding 1-in. standard gauge; 10 per cent. of ¾-in. gauge is to be used for filling the interstices during the rolling operations. The stone used is to be thoroughly dried before being coated with tar. For making tar paving, tar is to be used which complies with Road Board Specification Tar No. 1, or Road Board Specification Tar No. 2, as specified. If Tar No. 1 has been used for tarring the stone, care is to be taken, especially in hot weather, that the tarred material has been allowed to stand a sufficient length of time to allow the tarred surface of the stones to become partially hardened and in a tacky condition. If Tar No. 2 has been used for tarring the stone, the paving is to be laid soon after being tarred, and the stone coated with such tar should preferably be laid when the road is quite dry and in warm sunny weather. The quantity of tar used to coat one ton of stone is to be from eleven to fifteen gallons, varying according to the gauge of the stone, the grade of tar used, the method of mixing, and other conditions. Limestone chippings, spar, or other material (free from dust) not larger than will pass through a ¼-in. square mesh is to be used for gritting.

9. **Gravel for Footways.**—Gravel for paving footways or verges is to be good binding gravel, free from loamy or foreign matter.

Kerbs and Channels.

10. **Stone Kerbs.**—Kerbs where used are to be (insert granite, limestone, or other suitable material), free from shakes or other defects, obtained from (insert name of quarry or other source of supply). The sizes are to be (insert sizes not exceeding 6 in. × 12 in. edge, or 9 in. × 8 in. flat, in lengths of not less than 3 ft.). The ends are to be dressed so as to form proper butt joints, and the top side and outer edge are to be dressed throughout and the back edge to a depth of 3 in. The top surface is to be level and true to a straight edge, and the front and back faces are also to be

true to a straight edge, or to the required radii; all ends and both front and back faces are to be square to the top, and the bases are to be of full thickness and not cut away.

11. Artificial Kerbs.—Artificial kerbs are to be (insert description of artificial kerb to be used) and of the following dimensions (insert sizes not less than 4 in. \times 10 in. edge in lengths of not less than 3 ft.).

12. Channels.—Stone channels, where used, are to be of granite, or (insert description of stone) of the following dimensions (insert sizes not exceeding 12 in. \times 6 in. flat, in lengths of not less than 3 ft.). The ends are to be dressed so as to form proper butt joints, and the top surface and both sides are to be dressed throughout. The top surface is to be level and true to a straight edge, and the front and back faces are also to be true to a straight edge or to the required radii; all ends and both front and back faces are to be square to the top, and the bases are to be of full thickness, and not cut away.

Miscellaneous.

13. Cement.—All cement is to be fresh burnt Portland cement from approved manufacturers, and is to comply in all respects with the British Standard Specification No. 12 for Portland cement.

14. Sand.—All sand is to be clean, sharp, and free from all foreign matter.

15. Cement Mortar and Grout.—All cement mortar and grout, unless otherwise specified, is to be composed of sand and cement in the proportions by volume of five parts of sand to two parts of cement. The materials are to be thoroughly well mixed in both a dry and wet state until a proper consistency is obtained.

16.—Aggregate for Concrete.—The aggregate for concrete is to consist of clean, sharp river or pit ballast, free from clay loam, earthy or vegetable matter, and washed where necessary, and containing sufficient sand to completely fill the interstices. No stone is to exceed 2-in. gauge. Should the proportion of sand present in the material be insufficient, additional sand is to be added. Should there be too much sand present in the material, the excess is to be removed by screening. Alternatively, an aggregate may be used consisting of approved stone or hard well-burnt brick rubbish, or destructor clinker, no piece of which is to exceed 2-in. gauge, with sufficient sand added to completely fill the interstices.

17. Concrete.—All concrete, unless otherwise specified, is to be composed of aggregate and cement in the proportions by volume of six parts of aggregate to one part of cement. The materials are to be measured in proper boxes provided for the purpose, and turned over on wooden stages twice before and twice after wetting through a rose sprinkler, with a sufficient quantity of clean water, so that the whole shall be thoroughly well mixed and incorporated. No cement or concrete is to be allowed to commence to set before being placed in position. No concrete is to be laid during frost, and proper protection is to be provided against rain, frost, or excessive heat when necessary.

18. Lime Mortar.—All lime mortar is to be composed of blue lias lump lime and clean, sharp sand in the proportions by volume of one part of lime to three parts of sand.

19. Bricks.—All bricks, unless otherwise specified, are to be common bricks,

well burnt, hard and truly shaped, and free from cracks, lumps of lime, flints, or other defects. Bricks for lining manholes are to be similar to the above in all respects, excepting that they are to be of an impervious nature.

20. Salt-glazed Ware Pipes.—All pipes for soil and surface water sewers or drains are to comply with the British Standard Specification No. 65 for salt-glazed ware pipes. Those for soil sewers or drains are to be British standard tested; those for surface water sewers or drains are to be British standard.

21. Cast Iron Pipes.—All cast iron spigot and socket pipes are to comply in all respects with the British Standard Specification No. 78 for cast iron pipes and special castings for water, gas, and sewage.

22. Road Gullies.—The road gullies are to be of salt-glazed ware and properly traped.

23. Manhole Covers, Etc.—The manhole covers and gully gratings are to be of cast iron of good, tough, close-grained, sound grey metal, free from all cracks, airholes, twists, porous places, fractures, distortions, or other defects.

II.—ROAD CONSTRUCTION.

24. Stripping Turf.—Where specified, the turf on the site of the roads is to be cut, stripped, and stacked for relaying.

25. Surface Soil.—The vegetable earth or other surface soil is to be removed and deposited in separate heaps for use or disposal as may be directed.

26. Excavation.—The site of the carriageway, footways, and margins is to be excavated, or raised to the levels, and formed to the widths and cross sections shown on the drawings. The formation surface is to be properly shaped, consolidated, and regulated to an even and uniform surface parallel to the finished surface. All soft places are to be excavated and made good with suitable materials, thoroughly consolidated where necessary.

27. Foundations of Carriageways.—The foundations of carriageways are to be formed with a layer of hardcore as previously specified, spread evenly and uniformly upon the formation surface and well rolled until a hard compact surface is obtained, true in level and cross section, with all interstices properly filled. The thickness of the foundation after consolidation is to be (insert thickness, in no case less than 6 in.). On wet sites or clay subsoil, and where the character of the ground requires, a layer of well-burnt furnace or destructor clinker is to be spread and rolled to a thickness of 3 in. to 6 in. before the foundation of the carriageway is laid. When temporary roads have not been formed, and the foundation of the carriageway has been laid prior to building operations, the contractor is to excavate where necessary and make good and consolidate all trenches and soft places, and reform surface and supply necessary material to comply with the thicknesses and depths above specified.

Surfacing of Carriageways.

28. Waterbound Macadam.—Upon the foundation previously specified a coating of the material previously specified for waterbound macadam is to be spread and rolled to a hard compact surface true in level and to a cross fall of 1 in 24. The thickness of the coating when consolidated is to be (insert thickness, not less than 3 in. when the material is granite, or 4 in. if other materials are used.)

29. Rolling.—The rolling is carried out by a roller weighing not less than eight tons. The macadam is consolidated by starting the work at the sides and gradually working towards the centre. No water or binding is to be applied until dry rolling has been carried out to a sufficient extent to form a hard surface, with the correct cross fall, and with the stones well knit together. Spreading or rolling is to be carried out in frosty weather.

30. Binding.—The binding material is to be the best reasonably obtainable, is to be either of the same material as the surface coating, or of granite, limestone or slag chippings, or, failing these, of fine pit gravel, and no stone is to be less than 3/4-in. size. The binding material is to be applied until the stones have been tightly rolled as above described, then to be spread, watered, and swept over the surface during the final rolling operations, working it from the channels towards the centre so as to fill the interstices between the rolled stones. Care is to be taken not to use more binding material than is absolutely necessary to ensure proper consolidation.

31. Surface Tarring.—Where tarring is specified, the carriageway is to be allowed to thoroughly dry out before the tarring is executed. Tar is to be of the kind which complies with Road Board Specification for Tar No. 1. Immediately after application, the liquid tar is to be spread so far as is necessary to ensure regulation in the thickness of the coating. The quantity of tar is to be approximately 1 gallon to five superficial yards. If specified, stone chippings, crushed gravel, coarse sand, or other material (free from dust), not larger than will pass through a 1/4-in. square mesh, is to be used for finishing.

32. Tar Macadam.—Upon the foundation previously specified, a coating of macadam is to be spread and rolled to a smooth surface. The thickness of the coating when consolidated is to be (insert thickness, not less than 3 in., not more than 4 1/2 in.). For a greater thickness than 3 in. the material is to be applied in two coats. For one-coat work the material, as previously specified, is to be spread, levelled, and rolled to a hard, compact surface, true in level and to a cross fall not exceeding 1 in 24. For two-coat work the material is to be spread, levelled, and rolled separately in two layers, the material being prised up each layer being of the thickness previously specified. For both one-coat and two-coat work the 3/4-in. to 1 1/2-in. material is to be used for filling the interstices between the finished surface, and is to be applied during rolling operations. The roller is to be carried out by a roller weighing not less than eight tons, and the tar macadam is to be consolidated by starting the work at the sides and gradually working towards the centre. Less rolling is required in the case of waterbound macadam, care is to be taken not to over-roll.

33. Sealing Coat.—Where a sealing coat is specified, a coating of tar is to be applied to the surface, not less than one gallon of tar being used for every square yard of road surface. This is to comply with the provisions of Road Board Specification for Tar No. 1, and is to be poured or sprayed on the surface at a temperature of about 230 deg. Fahr. Stone chippings, crushed gravel, sand or other approved material (free from dust) not larger than will pass through a 1/4-in. square mesh, is to be used for finishing.



GENERAL OFFICES OF THE ALBION MOTOR CAR CO., LTD., AT SCOTSTOWN.

ALEXANDER N. PATERSON, M.A., A.R.S.A., F.R.I.B.A., AND D. MC.KAY STODDART, LICENTATE R.I.B.A., ARCHITECTS.

are mesh is to be used for grit-

Construction of Footways.

Foundations of Footways.—The surface of the footways are to be covered with a layer of hardcore as previously specified, spread, and well rolled to the required thickness of (insert thickness exceeding 4 in.).

Surfacing of Footways.

Natural or Artificial Stone.—Upon foundations previously specified, a layer of stone to be laid (insert width) or artificial stone flagging, provided all over the surface on a bed of mortar, with square joints, bedded with lime mortar, and laid to a true and even surface according to the lines and levels indicated on the plan and to a cross fall not exceeding 1 in. 4 ft. Where artificial stone paving of greater width than 3 ft., it is to be laid 2 ft. 6 in. \times 2 ft., and 2 ft. \times 2 ft. laid so as to break joint 6 in. in length, 3 ft. \times 2 ft. flags being cut to closers only.

Paving.—Upon the foundations previously specified, a coating of tar to be spread and rolled to a true surface. The thickness of the tar to be 2 in. in the case of one-coat work and 3 in. in the case of two-coat work. The material as specified is to be spread and rolled to a hard compact surface true in plan and to a cross fall not exceeding 1 in. 4 ft. For two-coat work the materials to be spread and rolled separately, the materials of each layer being of the sizes previously specified. For both one and two-coat work the $\frac{1}{4}$ -in. material is to be used to fill the interstices in the finished surface and is to be applied during the rolling operations. When the rolling has been completed the materials previously specified for gritting are to be thinly spread over the surface.

Verger Footways and Verges.—The foundations previously specified are to be spread, watered, and consolidated to a thickness of 3 in., and to an even surface true in plan and to a cross fall of not less than 1 in. 4 ft.

Verges.—The surface of the verges to be properly formed as specified is to be forked over to a depth of 6 in., the surface thus prepared to be covered with turf carefully laid, beaten, well rolled. Turf removed from the roads and stacked as previously specified is to be used if in good

condition.—Rolling for the purpose of settling the foundations and finished surfaces of the footpaths, and for consolidating the gravel and grass verges, is to be done with a hand roller weighing not less than 5 cwt., and as often as is necessary to ensure proper consolidation.

Kerbing and Channelling.

Kerbing.—All kerbing is to be carefully laid so that it is true in plan and to the required curves. The surface is to be vertical, and the joints true to the required levels. The kerbing is to be firmly and evenly bedded on a layer of concrete or clean gravel or good dry clinker, 6 in. in thickness, and the joints are to be nearly straight and well grouted with cement mortar. The height of kerbing in a channel is in no case to be less than 7 in. The con-

crete foundation, if used, is to be laid 3 in. wider than the kerb, and in the case of edge kerb it is to be extended half-way up the back of the kerb.

41. Channels.—All channelling is to be carefully and accurately laid so that it is true in alignment or to the required curves. The top surface is to be true in cross section, and to the required falls. The channelling is to be firmly and evenly bedded on a layer of 6-in. concrete 3 in. wider than the channel, or on clean sharp gravel or good dry clinker 6 in. in thickness, and the joints well grouted with cement mortar.

42. Jointing.—All joints are to be neatly struck with a pointing of cement mortar, and any space between the back edge of the kerb and the edge of the paving is to be made good with cement mortar.

43. Tar Macadam Channels.—Where channels are required and stone channels are not specified, they may be formed of tar macadam laid to a consolidated thickness of not less than 4 in., and to a width of not less than 12 in.

III.—SEWERS (SOIL AND SURFACE WATER).

44. Excavation.—Except where headings are specified or permitted, the ground is to be excavated for the sewers, manholes, etc., in open trenches to the lines and depths indicated on the drawings. Great care is to be taken to excavate to such depths only as are requisite for correct and regular gradients, and any trench which may have been excavated to a greater depth than necessary is to be filled in to the required level with concrete. All trenches are to be at least 6 in. wider on each side than the external diameter of the pipe to be laid. Especial care is to be taken to provide an even bed for the barrel of the pipe, and where a concrete bed is not specified the floor of the trench is to be properly shaped under the sockets and barrels of the pipes.

45. Shoring.—During the progress of the work all excavations are to be securely shored, timbered, and propped up, and where buildings are adjacent thereto, all necessary steps are to be taken to prevent damage. All water and gas mains, lamp columns, service piping, or any other apparatus connected therewith, together with any walls, buildings, or other properties which may be disturbed or injured during the progress of the works, are to be raised, lowered, slung, protected, underbuilt, restored, or made good. If directed, the timber is to be left in the trenches or excavations.

46. Timber Left In.—Any timber directed to be left in will be measured and paid for out of the provisional amount included for the purpose in the bill of quantities, and at the scheduled rates.

47. Pumping.—The trenches and excavations are at all times to be preserved and kept free from water during the progress of the works by means of pumping or otherwise.

48.—Headings.—Where sewers are to be laid in heading, the headings are to be driven through from shaft to shaft before the pipes are laid, and are to be of sufficient size to enable the sewer to be laid and the excavations to be properly refilled and rammed. They are to be run in perfect alignment both in direction and gradient, and are to be adequately timbered. Great care is to be exercised in filling in the headings after the sewer is laid, and the material is to be solidly packed in and well rammed, the timber being left in where required.

49. Bad Foundations.—If any portion of the bottom of the trench is unfit for the reception of the sewer, a good foundation is to be formed either with concrete or other material as may be directed. Such work will be measured and paid for as an extra.

50. Removing Surplus.—The excavated material is to be disposed of as directed on the site, and so as to cause the least possible inconvenience to the public. All surplus materials are to be removed from the works as and when directed.

(To be continued.)

CORRESPONDENCE

Pisé-de-Terre Building.

SIRS,—I hold no brief for pisé-de-terre building, but I protest against your attitude towards it. The present time is not opportune for transports of genteel indignation when a method of construction is proposed which may cheapen cottage-building without bringing with it any practical disadvantage. The gist of your leading article in your issue No. 1288 seems to be that, independently of all questions of sound structure and comfort, "the insuperable objection to rammed earth as a building material. . . . is its unutterable meanness," that "sentiment and association . . . are strongly opposed to the use of any sort of crude earth to form the walls of the habitations of man." Speaking for myself, if I become convinced that such earthen walls exclude the weather, support a roof and endure, I shall certainly recommend their use wherever they make a saving in cost over those of brick, or of stone. The aim of everybody at present must be to obtain for our working classes the best value in comfort and spaciousness for the country's money spent upon housing. It is more than doubtful whether an architect is justified in rejecting any sound building material for this purpose even when it is offensive to the eye, which pisé-de-terre is not. The sentimental objection to it which you raise will surely appear most frivolous to the practical man.

I may now state that I have as yet no personal experience of this kind of building. I have, however, been much impressed by specimens of it that I have seen. Your learned contributor, "Aero," will inform you that it was much practised during the later Georgian period, and no doubt will be able to supply you with some charming quotations from Loudon, or Plaw, or Malton, perhaps, in its praise. I fancy that the walls should always be stuccoed or cemented on the outside when they enclose a dwelling. If so faced they may—nay should—batter slightly towards the bottom. Aesthetically, this stuccoing is not always a gain, since some walls of sandy earth, and others of chalky earth, that I have seen showed that the natural surface may have considerable beauty of colour and texture. One garden wall in particular appeared both to sight and touch to be a monolith of beautiful golden sandstone. It had attained to a higher degree of consolidation than the average block of Bargate rubble.

Whether such results can be depended upon I do not yet know, but I trust that you and your readers will be broad-minded enough to join with me in awaiting the outcome of the experiments that are being made, without prejudice.

H. S. GOODHART-RENDEL.

Blagdon, Cramlington, Northumberland,
September 13, 1919.

ARMY HUTS AND STATE-OWNED HOSTELS FOR HOUSING.

The Ministry of Health have issued the following General Housing Memorandum No. 5 with regard to the provision of temporary housing accommodation by the use of army huts or State-owned hostels:

1. The Ministry of Health have had under consideration the measures to be taken to secure the early provision of housing accommodation in places where, though the immediate needs are acute, the permanent houses in course of erection or to be built by the local authorities are not likely to be ready for occupation in sufficient numbers for some time to come. Attention has already been drawn to the possibilities of converting large houses, which may be available for the purpose, into working-class flats, and in some districts an appreciable amount of additional accommodation may be obtained quickly by this means. The conversion of huts or hostels into temporary houses is another way in which accommodation may be provided rapidly, and this expedient, which has already been adopted by some local authorities, should be considered by all authorities in whose areas an urgent need exists. The following arrangements have been made in order to facilitate the action of local authorities in this direction—

2. The Ministry of Health will be prepared to consider proposals from a local authority for the provision of temporary accommodation, whether by the use of army huts or State-owned hostels, and, if they approve, the proposals will be regarded as part of the local authority's housing scheme under Section 1 of the Housing, Town Planning, etc., Act, 1919, and will rank for financial assistance accordingly.

3. The Ministry of Health will be prepared to arrange for the sale to local authorities for housing purposes of available army huts of such selected types as the Ministry consider to be specially suitable for the purpose. The sale will be arranged with the Disposal Board at a discount of 23 1-3 per cent. below the valuation of the property as determined by the Disposal Board, or, where their valuation is challenged, by an independent valuer agreed upon between the Disposal Board and the local authority.

4. Local authorities will have an option to purchase for the purposes of an approved scheme, in priority to any other purchaser and on the above terms, huts of the selected types approved by the Ministry of Health as specially suitable for use by local authorities. The War Office will make every effort to expedite the evacuation of any such huts which are represented by the Ministry of Health to be urgently needed by local authorities.

5. It may be possible for a local authority in some cases to arrange to take over a camp or part of a camp and to utilise for housing purposes the army huts in the position in which they stand. In such a case arrangements may be made with the Ministry of Health for the hire of the huts at a rent to be fixed by the Minister. This rent, with the rents received by the local authority from the letting of the temporary houses provided, will be brought into account in the local authority's housing account, from which the Government subsidy will be determined. If the land is not the property of a Government Department, and the local authority desire to take it on lease, they must themselves negotiate terms with the owner, assuming full liability for reinstatement; in such cases they would

receive from the Government Department concerned an amount to be agreed upon as equal to the estimated sum which the Department would have been liable to pay if the land had been vacated at the date of transfer. If, however, they desire to acquire the freehold of the land, it would be desirable to communicate with the Department in occupation of the land before approaching the owner.

6. Similar hiring arrangements may be made with regard to State-owned hostels in places where these exist. Such hostels may be used as lodging-houses, or may be readily converted into temporary dwellings.

7. Local authorities proposing to adopt a scheme for the temporary use of huts and hostels should, at the earliest possible date, submit to the Housing Commissioner for their region an outline of their scheme, indicating the type of hut which it is proposed to use, together with rough estimates of the cost of conversion and of the rents to be received. As soon as possible after the Ministry's approval of the proposal to provide temporary accommodation is received, the complete scheme should be submitted to the Housing Commissioner. The Commissioner will be able to advise as to the best methods of conversion, and will render to the local authority all the assistance in his power. Where necessary, the Ministry will be prepared to sanction loans for the acquisition and adaptation of huts and hostels for housing purposes. The periods for which such loans will be sanctioned will, of course, be shorter than those applicable to permanent houses.

8. It must be clearly understood that the provision of temporary accommodation in the manner described in this memorandum is to be regarded as an emergency measure. Such provision will not relieve local authorities from their duty to provide the permanent houses needed in their areas, and in no case should the preparation and the carrying out of schemes for permanent houses be delayed by the adoption of the temporary measures.

WEEKLY HOUSING RETURN.

The return of housing progress issued weekly by the Ministry of Health states:

The number of new schemes submitted to the Ministry during the week ended September 13 was 164, bringing the total number of schemes submitted by local authorities and public utility societies to 4,840, comprising approximately 45,000 acres. The total number of schemes approved is 1,561, comprising about 19,000 acres. The number of house-plan schemes submitted is 540, representing 32,743 houses. House-plan schemes representing 20,112 houses have been approved. Further arrangements (see preceding article) have been made in regard to the acquisition of war-service huts and hostels to be used by the local authorities for conversion into temporary dwellings. Arrangements have been made with the War Office and other Government Departments concerned for the evacuation of camps required for temporary housing purposes to be expedited. The Ministry are calling the attention of local authorities and others to the useful powers which are given to local authorities under Section 12 (3) of the new Housing Act. Under this section a local authority may contract with a private builder for the purchase of houses to be thereafter erected by him. In many cases this may prove to be an economical and expeditious

arrangement. Small builders on partly-developed sites in their on which a few houses could be and large estate developers, other building operations in have resources at their disposal would be applied, with a saving of expense, for the erecting of working-class houses. Private builders consider that they could put in once the building of a few cottages at a relatively cheap rate should there be no time in getting into communication with their local authority and proposals for consideration. The Housing Board has inspected about 4,000 of the 4,000 houses included in the made by the Metropolitan Councils of the number of houses might be regarded as suitable for conversion into flats in the London Council area. Up to now, about 100 houses have been scheduled by the Housing Board as generally suitable to be available for conversion at an early date.

Details of the schemes of local authorities dealt with during the week follows:

Building Sites.

Schemes Submitted.—The number submitted by forty-seven local authorities was 164, bringing the total number of schemes submitted to 4,744, covering approximately 45,000 acres.

Schemes Approved.—Seventy-two schemes were approved, comprising an area of 382 acres. This brings the number of local authorities' schemes approved to 1,542, covering approximately 18,400 acres.

Lay-outs.

Schemes Submitted.—Thirty-two schemes were submitted by twenty-two local authorities, bringing the total number of schemes submitted to 851.

Schemes Approved.—Twenty-two schemes promoted by twenty-two local authorities were approved, bringing the total number of schemes approved to 321.

House Plans.

Schemes Submitted.—Four hundred and thirty-four schemes and three part schemes representing 837 houses, were submitted by thirteen local authorities. This brings the total number of local authorities' house-plan schemes submitted to 512 and the number of houses to 28,233.

Schemes Approved.—Twenty-two schemes and three part schemes promoted by twenty local authorities were approved, bringing the total number of full house-plan schemes approved to 321 and the number of houses represented to 19,364.

PROPOSED NEW SOUTH AFRICAN UNIVERSITY

The following were the successful competitors for designs for the lay-out of the University site at Milner Park, Witwatersrand: Design placed first, carrying a premium of £200, Lyon and Fallon, Cape Town. Second, carrying a premium of £100, Harold Porter, Johannesburg. Three other designs were specially commended, namely, a second design by Lyon and Fallon, one by Mr. V. S. Rees, and Mr. W. Barbour (Pretoria), and one by Hawke and McKinlay (Cape Town). Twenty designs in all were submitted. The choice of the first premiated design was made after two final separate selective tests, each of which showed the design to possess many practical advantages. On the previous more general survey the plans all the assessors felt that

important practical respects it offered solution. As regards the second design the assessors consider exhibits very high artistic ability in architecture and in general, but that it falls behind the first in practical features, which are of importance in dealing with a plan which may have to be developed in a plan during a period which will occupy a very considerable time. The assessors are of opinion that the requirements of future plans should be rendered easy of amendment without marring or mar that which may have then been. They refer to the extensibility of the plan to an extent only limited by the nature of the ground itself. In the present design this is not difficult, and will not interfere with the central purpose. Convenience of intercommuni-adjacency as between various departments has been kept in mind in the scattered blocks or groups of buildings deprecated. The orientation of the buildings has been carefully considered with a view to reducing the inconvenience of a sun, while retaining the full advantage of a north aspect. The question of leaving space for unforeseen developments in the far future, even the ample building programme provided in the conditions, has been considered by the assessors.

ARCHITECTS' FEES.

action in the Scottish Law Courts. Leadbetter, Fairley, and Reid, v. Edinburgh, against Major Ian Hunter, the Judge (Lord Hunter) has given judgment. The architects sued for £1,617 19s. 2d. for professional services. Several schemes were proposed by them for the rebuilding and improvement of Meggernie Castle between 1909, and December, 1913. None of the schemes had been proceeded with. Bullough, whose castle remained. He tendered £650 with expenses. The Judge has granted decree with half expenses. His Lordship's opinion, said that the discretion of the views of the skilled witnesses as to the pursuers' claim were greater than usual. Eminent did not think that the amount was unreasonable in view of the facts. On the other hand, eminent for the defender expressed the charges were greatly in excess of what should have been made. The court did not think he was far from awarding £950.

BARTLETT SCHOOL OF ARCHITECTURE.

September 29 the first term commences at the Bartlett School of Architecture, which includes a department of town planning and which offers special facilities for full and comprehensive course of architectural education on a sound basis. The new building for the school of architecture, provided through the generosity of Sir Herbert Bartlett, Bart., and the Senate of the University, is to carry out the scheme for the union of the architectural schools of the University and King's Colleges. The new schools are now carried out in a building which is the largest and most complete of its kind in the United Kingdom. Courses of study are provided for a B.A. degree course (Honours in Architecture) of the University, the certi-

ficate course in architecture, the seniors' design class, certificate course in town planning, diploma course in town planning and civic architecture, diploma course in town planning and civil engineering, and evening courses in design and academic design. The staff includes the following: Professors A. E. Richardson, F.R.I.B.A., and S. D. Adshead, M.A., F.R.I.B.A., and Messrs. Arthur Stratton, F.R.I.B.A., F.S.A., Martin Briggs, F.R.I.B.A., H. Charlton Bradshaw, A.R.I.B.A., and E. P. B. Musman, B.A., A.R.I.B.A. Full particulars may be obtained from the secretary, Mr. Walter E. Seton, M.A., D.Lit., at the University College, Gower Street, W.C.1.

BRIGHTON AND CONVERSION OF HOUSES INTO FLATS.

At Brighton and Hove two or three companies have been formed to convert large houses into flats. In Adelaide Crescent, Hove, several houses have been bought by a syndicate, which is devoting between £6,000 and £7,000 to the necessary alterations. The rent asked for each of the five flats here ranges from £240 to £300 a year. The flats, according to "The Times," have been made full of comfort and convenience, and not merely separated parts of one building. It is expected that before very long many other large houses will be similarly treated. The demand for flats of such a kind far exceeds the existing supply, while the demand for large houses appears to be dwindling towards extinction. Tenants are waiting till the conversion of the syndicate's houses is complete; flats are already let which will not be finished till November. As for furnished flats, a dozen applicants are ready to compete for every one that is vacant. Comparatively small modern houses are also in demand. A few of the Cubitt houses in Brighton have been turned into "maisonnettes," but nothing on the complete scale seen at Hove has been undertaken. Opinion considers that conversion will go on indefinitely, and refrains from suggesting how long it will be confined to the newer parts of Brighton. Already Brunswick Terrace promises to outstrip Adelaide Crescent in regard to rents; the rents for flats under conversion there run from £300 to £500 a year.

TIMBER RESOURCES OF BRITISH EAST AFRICA.

Timber is, at present, one of the greatest assets of British East Africa and Uganda. Of the total timbered area of 157,000,000 acres in the Protectorate, 2,000,000 acres are forest reserve, but this does not constitute the whole of the forestry area, as 5,000,000 acres of land have already been alienated, and of this total several hundred thousand acres must be considered as forest areas. The greater part of the timber of the country is to be found in the highlands, and certain companies possess very large areas. A number of narrow gauge lines have already been laid from the main line to those parts where operations are being carried out.

The industry will probably develop into a very important one in the near future, according to the "Board of Trade Journal." Many sawmills are now operating in various parts of the country, and although nothing has yet been accomplished on a large scale in turning out timber for export purposes, the material is at hand, and with the advent of normal

times the mills will have an opportunity of concentrating their energies on meeting the demands of the territory, and turning their attention to the possibilities of an export trade.

The potentialities in the latter connection will, of course, depend to a very large extent on railway facilities and freight charges. The Government already have the question of improving the harbour facilities under consideration, with a view to coping with the export of timber. There are large quantities of timber available, suitable for railway construction work—sleepers, waggon-making—furniture, and mine props. The chief timbers are described below.

Ironwood.

Ironwood, botanically known as *Olea hochstetterii*, is almost identical with the ironwood growing in South Africa, and known there by the botanical name of *Olea laurifolia*. This wood has been used by wheel-makers and waggon-builders for heavy transport waggons, as it is noted for its great strength and durability. It is also suited for railway coach-building—especially for the floors and under-framing—wood block paving, railway sleepers, bridge-building, pick and tool handles, furniture, joinery, and internal decorative purposes such as panelling. For the latter purpose it is said that the beauty of the grain is unsurpassed, its peculiar lights and shades giving it the appearance of marble.

Red Stinkwood.

Red Stinkwood is botanically known as *Pygeum Africanum*. It is principally known as a very good waggon wood, being mainly used by wheel-makers for making felloes and hubs of heavy transport waggons and for making yokes. It would also make good furniture, but owing to its scarcity is not utilised for the latter purpose. Some of the trees, which are very large, are found scattered in the highlands of British East Africa.

Yellow-wood.

Yellow-wood—the botanical term being *Podocarpus traciier*, or *Podo*—is believed to be the same as the *Podocarpus elongata*, or *Outeniqua* Yellow-wood that is found in the Cape forests at Knysna, South Africa. It is also found in German East Africa, from where it was exported to Hamburg as "African Pine." Timber merchants anticipate a great future for this timber. Its qualities are well-known for house construction work, such as flooring or lining-boards. It also makes good railway sleepers when creosoted.

Cedar, or *Juniperus procera*, grows in nearly all the forests of the Protectorate. It is particularly useful for making pencil slats.

MOOR PARK, RICKMANSWORTH.

Moor Park, Rickmansworth, has been sold to Lord Leverhulme. The property extends to 3,000 acres, and includes the historical mansion house which stands in a deer park, the Sandy Lodge Golf Course, Tolpit's House, Moneyhill House, Batchworth House, Batchworth Heath House, Batchworth Hill House, Frogmoor House, Cole King's House, and several important farms and valuable building land, the estate reaching from Rickmansworth to Watford. The park was enclosed in 1460 by George Nevil, afterwards Archbishop of York, and Benjamin Styles bought the place in 1720. The estate was purchased by the first Marquis of Westminster in 1828, and his grandson, Lord Ebury, the recent owner, inherited it.

cleared, and the top soil of the old
ents removed. Foundations have
aid, and every effort will be made
to edit the building operations.

Death of Mr. A. R. Jemmett.

deeply regret to hear of the death
of Mr. A. R. Jemmett, F.R.I.B.A., of
an obituary notice must be deferred
next week.

Derby's War Memorial.

ral schemes for a war memorial for
having been considered by a sub-
tee, the General Committee ap-
d the Corporation has recom-
d the adoption of the river prome-
proposal, and that one section of it
be pressed forward immediately.
concerns the Derwent area, from the
nt bridge to the Cattle Market
, including the erection of a memo-
il. The plans also include prome-
forty feet wide on each side of the
to which gardens will be attached,
er with a bandstand on an island
d in the river. This part of the
is estimated to cost £85,000, while
whole scheme is calculated at
00.

Belfast Housing Scheme.

meeting of the Belfast Housing
tee was held in the City Hall. For
rying out of the scheme, which pro-
or the erection of 5,000 houses, 1,500
uilt within the next twelve months,
resolved to recommend the Corpora-
appoint a Board of Architects, in
ance with the proposal of the Ulster
of Architects, to prepare the plans
serve the work. The City Surveyor
structed to revise the plans and
iations, as suggested by the Local
ment Board, for the twenty
le" houses which it is proposed to
and the committee decided to adver-
tenders for the execution of the

Salford Cathedral.

ovement has been started to carry
portant repairs in Salford Cathedral,
s suffering seriously from the action
atmosphere and the effects of heavy
traffic. The crocketed canopies,
are a striking feature of the Cath-
have been weakened, and some por-
have become so loose that they
an to fall. The atmosphere is caus-
Caen stonework to yield. The ex-
stone fabric requires to be exten-
treated, and the spire, which rises
eight of 240 ft., is in need of repair.
estimated that the cost will be
0, and as the population of the
ral parish is the poorest in the dio-
public appeal has been issued for
required.

Dormansland War Memorial.

tract has been entered into with
s Patent Concrete Construction
ny, Ltd., of East Grinstead, for the
a of the Memorial Club decided
by the residents of Dormansland and
ns Park. The building, which is to
ected upon the site at the Cross
presented by Colonel Spender
M.P., will consist of a large
reading and smoking-room, ad-
a ladies' reading-room, with a
a partition and permanent stage.
hole can be thrown into a hall
of seating about 200 people.
is also a committee room and
ment canteen. All the rooms will
erally heated. The walls will be of
concrete blocks with an inner wall of

breeze blocks, with a plinth of grey sand-
stone effect and rough-cast above. Mr.
Arthur B. Hayward is the architect. Ar-
rangements have also been made for the
erection of a memorial cross 15 ft. high in
the churchyard upon the plinth of which
will be recorded the names of those who
have fallen in the great war. The com-
bined cost of the building, including heat-
ing and furnishing, and the cross will be
about £2,100, all of which has been either
subscribed or guaranteed.

COMPETITIONS OPEN.

October 4.—"Daily Mail" Ideal Labour-Saving Homes.

The "Daily Mail" are offering prizes
of £250, £100, and £50 for the best designs
for the labour-saving house, which will be
one of the features of the forthcoming
Ideal Home Exhibition at Olympia in
February, 1920. Architects are to submit
designs for houses for a professional class
family, designed primarily for the saving of
time and labour-saving. Drawings,
addressed to the Secretary, Ideal Labour-
Saving Home Competition, 130, Fleet
Street, E.C.4, to be delivered before
October 4, 1919.

October 15.—Leamington Spa War Memorial.

The War Memorial Committee offer
premiums of £100, £50, and £25 for
designs for war memorial. Mr. H. V.
Ashley, F.R.I.B.A., of 14, Gray's Inn
Square, W.C., will act as assessor. Fur-
ther particulars from the Town Clerk.

October 31.—Portishead: Housing Scheme.

Designs invited for lay-out of block of
houses for the Urban District Council.
Premiums £50, £30, and £20. Mr.
C. F. W. Denning, F.R.I.B.A., and Mr.
F. H. Smith have been appointed
assessors. Further particulars from Mr.
F. H. Smith, Surveyor, Council Offices,
Portishead.

No Date.—Darwen: War Memorial.

Premiums of £50, £30, and £20 are
offered for designs for a war memorial.
Particulars from the Town Clerk, Darwen
U.D.C.

COMPETITIONS CLOSED.

Stretford: Lay-out at Gorse Park Housing Site.

The awards in this competition are:
1, C. Swain, Manchester; 2, Gordon
Hemm, Heaton Chapel; 3, R. J. McBeath,
Sale.

Limpfield: War Memorial Hall and Club.

In this limited competition the designs
by Mr. Arthur Keen, F.R.I.B.A., have
been adopted.

Edinburgh Housing.

In the competition for the lay-out of four
areas and accompanying designs for
houses for the Edinburgh Town Council's
Housing and Town Planning Committee,
the assessor, Sir John Burnet, R.S.A.,
Glasgow, awarded all the first premiums
to Messrs. A. K. Robertson and T.
Aikman Swan, A.R.I.B.A., of Edinburgh.
Designs were required for houses, tene-
ment blocks, and flatted houses (two-
storey). A feature of the winning designs
is the back porch. The cottages are to be
built in blocks of two, four, six, or eight,
with a minimum of about 15 ft. between.
It is estimated that the four areas which
the City of Edinburgh is about to build
on will contain 2,884 houses, being four-
teen houses to the acre.

COMING EVENTS.

WEDNESDAY, OCTOBER 8, TO SATURDAY, NOVEMBER 1.

Housing and Health Exhibition at the
Kelvin Hall of Industries, Kelvingrove,
Glasgow, from October 8 to Novem-
ber 1. The City Corporation have found it
necessary to obtain increased accommoda-
tion, and have taken possession of the
building adjoining the Kelvin Hall. It
has been decided to erect two model
cottages in the annexe.

TUESDAY, SEPTEMBER 30.

The General Council for the National
Registration of Plumbers.—Eighth meet-
ing of the General Council, at the Council
Chamber of the Guildhall, London, at
10.30 a.m., under the presidency of the
Lord Mayor. The following items are on
the agenda: 1, Election of president for
the year 1919-1820. 2, Minutes of the
seventh meeting of the Council, held at
the Royal Technical College, George
Street, Glasgow, on October 11, 1913.
3, Report of the managing committee for
the year 1918-1919, and recommendations
thereon. 4, Relaxation of examination
tests. The following resolution will be
moved: (1) "That in view of the abnormal
conditions created by and resulting from
the war, the existing rules as to the exami-
nation of applicants for registration be,
for a period of two years, modified to this
extent: That each Local Council shall
have power to dispense with examinations
in the case of masters or operatives who
(a) have served a regular apprenticeship
to the plumbing trade; (b) have been
engaged in the trade for not less than
fifteen years from the commencement of
their apprenticeship; and (c) are recom-
mended as qualified for registration by at
least two members of the local Council."

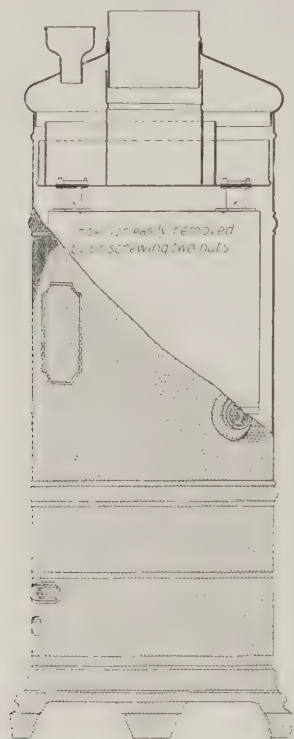
HOUSING IN THE POTTERIES.

Mr. F. Parker, northern organiser for
the Garden Cities and Town-Planning
Association, at a meeting of the North
Staffordshire Trades and Labour Council
at Hanley, stated that the Association had
completed a week's housing campaign in
the Potteries. In order to meet the im-
mediate needs of the nation, 500,000
houses should be built. As long as the
housing problem existed, social and indus-
trial upheavals would continue, and the
infantile mortality would remain high.
The condition of things in the Potteries
in relation to housing was deplorable. In
the past private builders had erected 95
per cent. of the houses, but owing to the
high cost of labour and material they
could not now erect decent houses for
which the working classes could pay an
economic rent. The Ministry of Health
were prepared to lend to local authorities,
at the current rate of interest, 75 per cent.
of the total cost of a housing scheme, and
after the houses had been erected the
Ministry were prepared to bear any loss
over and above the product of a penny
rate. The object of that was to enable
local authorities to let houses at less than
an economic rent. They wanted to encour-
age local authorities to erect the best pos-
sible type of house. The municipality
could secure land at a price fixed by the
Inland Revenue authorities. As far as
practicable, housing schemes ought to be
carried out on garden city lines, and there
should not be more than twelve houses to
the acre. In the course of a discussion,
Mr. T. Thornton (Secretary of the Coun-
cil) said the housing question ought to be
made a test question at the next municipal
election.

TRADE AND CRAFT.

Geysers and Water Heaters.

The new edition of the geyser catalogue of the Davis Gas Stove Co., Ltd., shows a large variety of "open" and "sealed" geysers, in many patterns and shapes, and



Section showing method of detaching interior of "Shamrock" Geyser.

designed to suit all requirements. One type of open geyser, the "Thistle," which is for villas, flats, and converted houses, and which is made in two sizes, is 27 in. high, 10 in. diameter, to heat $2\frac{1}{2}$ gallons per minute; and 35 in. high, 12 in. diameter, to heat $3\frac{1}{2}$ gallons per minute, is now being constructed double-handed instead of rotating. Another special sealed type of the company is the "Shamrock," which has been improved by the fitting of a detachable and readily renewable interior, and the adoption of the double-handed principal. The "Shamrock," all the renewable parts of which have been standardised, is made to heat $2\frac{1}{2}$ or $3\frac{1}{2}$ gallons of water per minute. Two entirely new "sealed" machines are the "Walton" bath heater, and the "Oxford" water heater. The "Walton" is 27 in. high, 12 $\frac{1}{2}$ in. diameter, has a capacity of ten gallons, and is especially for use in country districts, where an inadequate supply of gas prevents the installation of a geyser. The "Oxford" is for installation where only a small quantity of hot water is required for lavatory and ordinary domestic services. Special features of the geysers are the company's automatic valves, interlocking taps, geyser burners, and safety pilot gas cocks. All the geysers are made for right- or left-hand fitting. In the rotating patterns the cover, body, and burner chamber are entirely separate parts, so that the body and outlet can be placed in any position in relation to the gas and water fittings.

Catalogues for Greece.

Major Kennard, Commissioner for the Near East, writes that members of the Federation of British Industries generally only send him one or two copies of their catalogues and leaflets. These are fre-

quently taken away by interested buyers and not returned, thus defeating Major Kennard's intention of having a comprehensive library of members' catalogues at Athens. It would be advisable that members should send him at least half a dozen copies of each leaflet or catalogue, and also that c.i.f. prices should be quoted whenever possible. They should be addressed as follows: Major E. Kennard, Federation of British Industries, Rue Dragatsaniou, No. 6A, Athens, Greece.

Concrete Block Machine.

The Dri-Concrete Block machine, illustrated, has been designed to produce a concrete block which can be used in the construction of walls in exactly the same manner as brick or stone, thus eliminating the need of cavity walls. The block consists of two parts, the main body and a thin waterproofed coating or facing. In the main body the usual aggregates are used, such as sand, gravel, granite, stone, and, preferably, of porous aggregates like breeze, pumice, broken brick, etc., in the proportion of 6 of aggregate to 1 of cement. The facing, which is $\frac{1}{4}$ in. thick, is composed of three parts of clean sand, one part of Portland cement, and 3 lb. of "Pudlo" to every 100 lb. of cement. With the Dri-concrete method the ordinary concrete is made considerably wetter, and the face being uppermost and finished off with the "striker," it is possible to use a far wetter facing mixture. The firm claim that blocks made upon the "Dri-concrete" machine are already rendered (faced), and that the $\frac{1}{4}$ in. of waterproofed facing is sufficient to resist fierce, driving rains, as the facing is part of the block, being made at the same time as the block. The machine also makes partition slabs either with or without a waterproofed face. To form the required thicknesses of the slabs, packing pieces are bolted to the bottom of mould box to raise the pallet to desired heights. The standard machine

makes 18-in. \times 9-in. \times 9-in. block ordinary walling and also quoin or corner blocks of the same size. Extra faces are supplied for making half and quarter blocks, which are multiples of the sizes. Other attachments are made for producing blocks or slabs in various thicknesses. Blocks for flues can also be made. The number of blocks which two labourers can produce on the machine is said to be 200 in a day of ten hours. The standard outfit for making 18 \times 9 \times 9-in. blocks, quarter blocks, half blocks, quarter blocks, quoin or corner blocks, with plain face, waterproof, and slabs with bevelled edges or 18 \times 9 \times 8 $\frac{3}{4}$ -in. blocks, made non-waterproof, with bevelled edges and plain face, has the following accessories, viz., one striker, one iron roller, one beater, one pallet.

Down-Draught Preventing Chimney.

Messrs. J. H. Sankey and Son, Ltd., have sent us a copy of their latest booklet dealing with the "Sankey" down-draught preventing pots, which are supplied in red, buff, or salt-glazed clay. They are similar to those on church belfries and are fixed on the side of the pot. A side striking upon the louvres is diverted downwards through the top of the chimney by the creation of a partial vacuum, the smoke upwards with it. The descending vertically strikes upon the louvres, setting up a similar action, the wind and smoke are emitted through the side openings. In extremely strong cases the pot is fitted with a special attachment which entirely prevents down-draught, giving full play to the louvre principle. The "Sankey" down-draught preventing pot is made 30 in. and 42 in. high, with a 12-in. base for 9-in. by 9-in. flues, and a 14-in. base for 14-in. by 9-in. flues. A copy of the booklet will be sent on application to Messrs. J. H. Sankey and Son, Ltd., at 74, Cheapside, London, E.C.



Dri-concrete Block Machine and Accessories.

Architects' Journal
Tuesday, Oct. 1, 1919

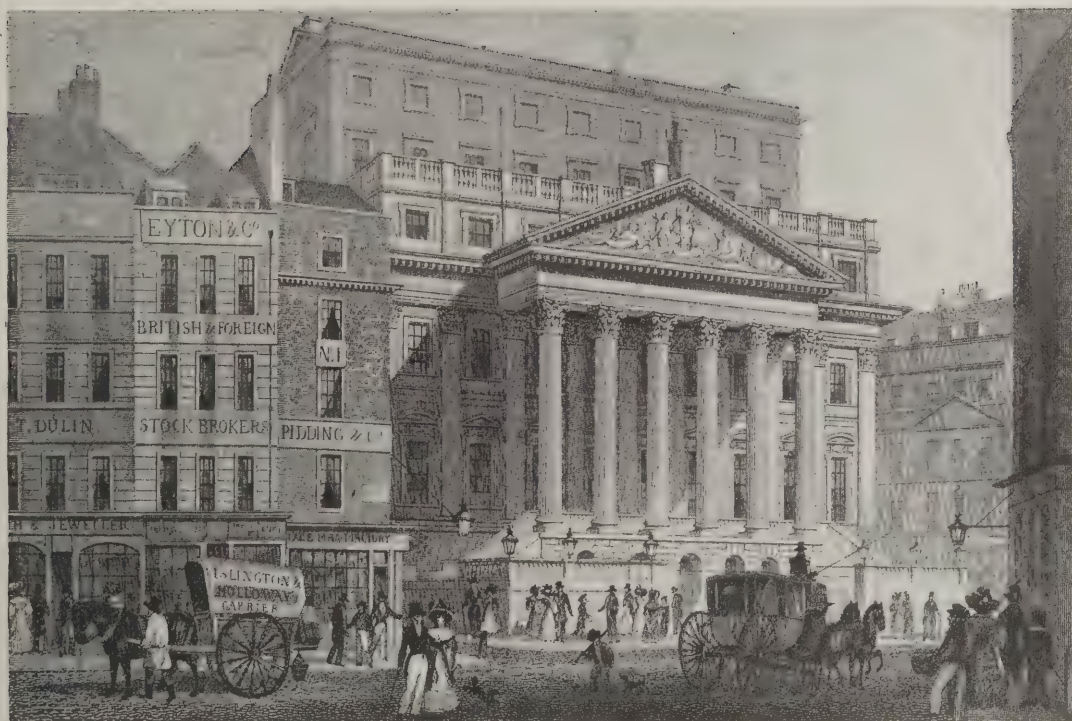
The Architects' Journal
Volume L. No. 1291

THE ARCHITECTS' JOURNAL

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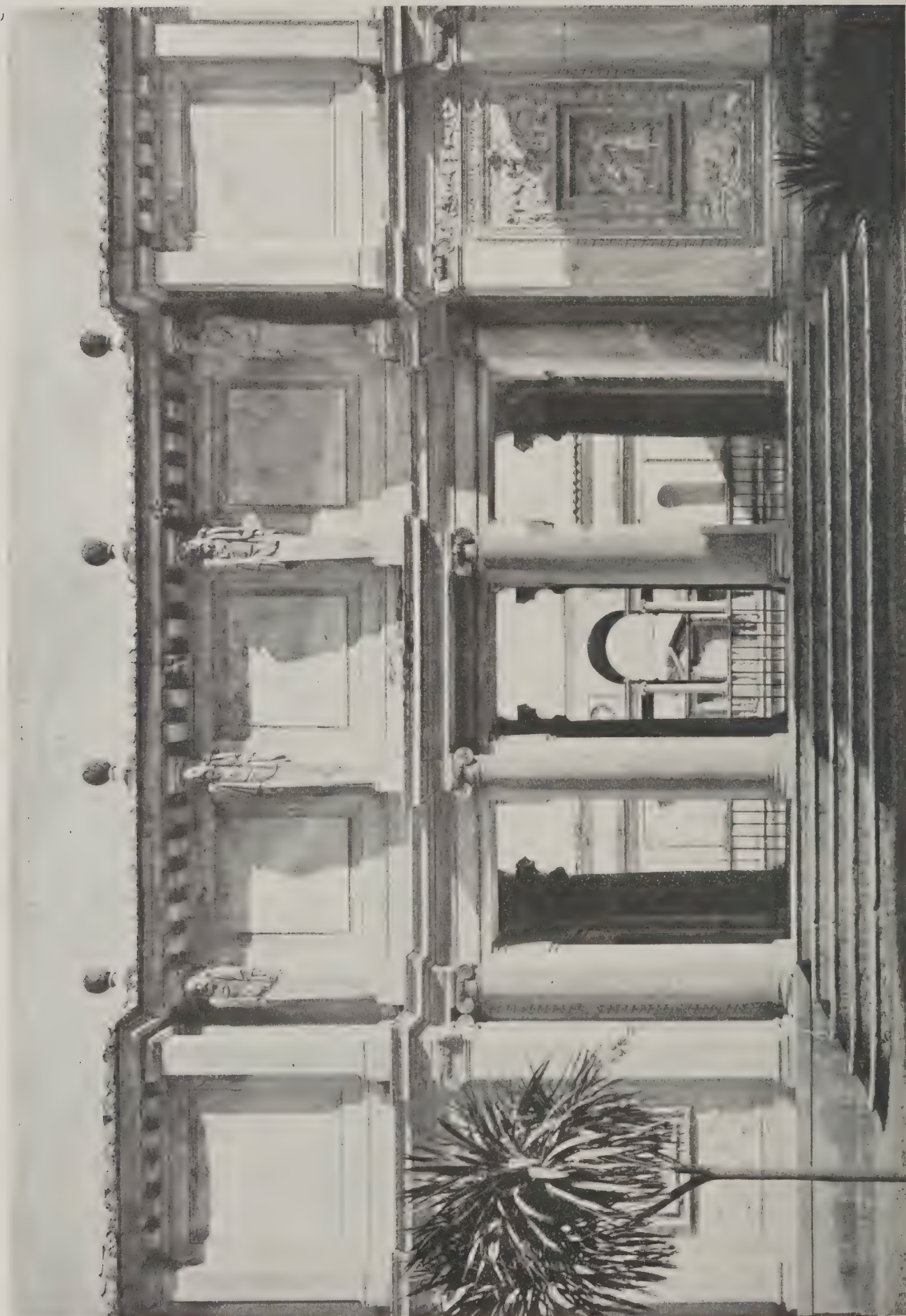
ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS

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THE MANSION HOUSE, FROM THE BANK.

(From the drawing, dated 1830, by Thomas H. Shepherd, engraved by W. Wallis.)



LOGGIA OF THE VILLA PAPA GIULIO, ROME. VIGNOLA, ARCHITECT.

THE ARCHITECTS' JOURNAL

Architectural Editor: Professor A. E. RICHARDSON, F.R.I.B.A. Literary Editor: J. FINDLAY McRAE.
Organising Editor: G. J. HOWLING. Assistant Editor: EVERARD R. H. READ.

Wednesday, Oct. 1, 1919 27-29, TOTHILL STREET Volume L. No. 1291
WESTMINSTER, S.W.

Wooden Houses.

Old time there was a profane litany in which one item was a prayer for deliverance from wooden shoon. Perseveringly and stentoriously d, it had a somewhat dynamic effect on history. Wooden dwellings might be turned to similar it, it would be well for their advocates to make tectly clear that the proposal to erect wooden ngs wholesale is only a temporary expedient to pressing demand for shelter, and is not intended ermanent reversion to a discarded practice, still a slight on the workers, implying that for them rt of building material is good enough if only it ap enough. In such critical times as these it is ble to avoid all cause of offence to a froward tion which seems for the moment to be principally ed in seeking occasions of rebellion. If the want ases is a cause of "Labour unrest," the whole- rovision of wooden dwellings is less likely to irritation than to increase it; for there is nothing xasperating than a mean response to an eager id. Unfortunately, the subject has been taken a newspaper "stunt," and advocacy that is for ason suspected of insincerity is met with vigorous tion that in its turn is set down to jealous rivalry, journalistic and partly political. For example, ti-Coalition evening newspaper has a cartoon in the Prime Minister is calling on an utterly dis- l Tommy to admire the meanest of wooden huts ustrating Mr. Lloyd George's declaration that ask of the Government will be to make Britain a ntry for heroes to live in." Of course that is a caricature of the situation; but gross caricature is e and soul of electioneering, and our fear is that aggeration of avowal and protest for and against n dwellings may make serious mischief among rkers, who, as Sir Kingsley Wood has admitted, unifesting "a lively prejudice" against them.

What is architectural opinion on the subject? The cts with whom we have discussed the matter have, judiciously weighing the pros and cons, assumed itude of benevolent neutrality. A well-propor- and properly constructed weather-boarded they admit, has a very attractive appearance, n be made tolerably cosy by the use of insulating al to prevent its getting too cold in winter and too i summer. Doubts were expressed, however, er a wooden house, properly constructed on brick ations, and made thoroughly snug, would not, at esent price of timber, cost almost as much as a ng of orthodox modern type. Then there is the danger from fire, especially if the boards are . But for this hazard, a wooden house might last ury or more, if the timber were of good quality; enerally speaking, the timber of to-day is much r to that of which were built the trim wooden gs that for a century or more have continued to e elements and grace the country-side.

The ideas of the "stunt" press are very vague at

the moment, and it does not seem that any serious attempt has been made to ascertain the actual cost of erecting wooden houses of the "mill cut" type in this country. It is reported that Mr. E. C. Wade, Agent-General for British Columbia, has offered the Ministry of Health, on behalf of a Canadian timber firm, a sample wooden house of a type very popular in Canada which, it is thought, could be adapted to English requirements. This offer has been accepted by the Ministry of Health, and the house will be set up in this country with as little delay as possible—presumably for the enlightenment and inspiration of British architects and builders, though this is by no means certain. Possibly, on receipt of order, the Canadian firm of contractors is ready to provide a sufficient number of houses to make good our total deficiency. If this is so, then we are immediately confronted with the further and even more difficult problem of getting them across the Atlantic. Even if we had the shipping to spare for so gigantic a task (and, incidentally, it must not be forgotten that transport would add heavily to the cost of these houses) it would be many months before we should see any appreciable increase in housing accommodation. As to cost, we should like to be assured that the figures attached to certain American examples were not pre-war costs. If they were, the advantage claimed is almost negligible. The mere provision of large numbers of standard wooden parts ready for assembly would not of itself constitute a solution of the housing difficulty. These wooden houses could not (as the "stunt" press seems to assume) be packed together and dumped down upon the first piece of vacant land encountered. Sites would have to be cleared and laid out, roads planned, proper sanitation, water supply, and lighting arranged. All these essential services, and the many others involved, imply much laborious preliminary work that cannot be unduly hurried if satisfactory houses are to be secured. Hence the plea of rapidity of erection, which is so strongly urged by the advocates of wooden houses, is found on examination to have very little force.

Naturally the newspaper advocates of the wooden house endow it with all possible virtues, and ignore or gloss over its frailties—its many very serious disadvantages from which brick and cement are wholly free: for example, several interesting kinds of rot; the liability of wood to shrink warp, and split on the smallest provocation; the ease with which it is devoured by "rats, mice, and such small deer"; its too ready hospitality to the vilest of vermin.

In citing a few instances of longevity, the champions of wooden houses suppress the inconvenient fact that there would be thousands more in existence if fire had not destroyed whole villages of them, or if, as at Regina, they could have withstood high winds; and though the public memory is short, it can hardly have forgotten the fearful catastrophe at a wooden hospital some few years ago. Nor would it advance the "stunt" to refer to the

very frequent repairs that are necessary to keep the wooden house from falling to pieces. Many of these alleged old houses have been as thoroughly renovated as the Irishman's knife, with its new haft and blade. But what is the use of saying in one and the same breath that these houses will endure for centuries but are only intended to be temporary? One great advantage that has not been claimed for the wooden house is peculiar to itself. It realises the housewife's ideal. It is all cupboard.

So far we have confined our criticisms solely to the practical aspects of the proposal. The æsthetic side of the question ought not to be ignored. Timber houses can be delightfully attractive; witness the many old examples still remaining in the country. The "Colonial" type of wooden house, also, has a distinct charm of its own, and architects would be the last to

object to a proposal that aimed to enrich the countryside with cottages on so delightful a plan. But the timber house can be very ugly indeed, as a study of back numbers of the American architectural publications will show. What type of house could a Canadian contractor prepared to provide? And this standardised house be erected wholesale in all parts of the country irrespective of its suitability to local requirements and building traditions? These questions, and many others, must be thoroughly thought out. It would be a humiliating and an ignominious failure to all our efforts—our conferences, our housing committees and departments, our national housing petitions—if we finally allowed ourselves to be led into a foolish course of action through a wrong-headed and somewhat disingenuous Press agitation. (See symposium, see next page.)

G. J. H.

Notes and Comments

Revising the By-laws.

IT is announced that the Ministry of Health is revising the building by-laws. Quite independently of the acute crisis in housing, they were greatly in need of revision. Made by the Local Government Board a generation ago, to meet conditions that in several important instances have been long outgrown, they have been from time to time revised to bring them into line with the modern science of building, to which, however, they have never quite caught up. They are now being overhauled to permit freer use of the newer or "substitute" materials, to favour certain economies of construction, and, above all, to allow of the erection of wooden dwellings. As if to demonstrate the truth of the commonplace observation that no absurdity is too preposterous to be defended by some hare-brained crank or some person anxious to establish a reputation for cheap chivalry, the effete-ness of our by-laws has been repeatedly and vehemently denied, and architects and builders have been challenged to show any single instance in which the by-laws were not absolutely impeccable. That nonsense was stopped by the Repton School case, in which the trustees, who had extended the front of the school dining-room, were solemnly charged with putting up a new building without providing for the rear air-space required by the local by-law. This was too much for common sense, and the local authority lost its case. Another instance of idiotic ineptitude in the by-laws was that in which an architect was held to have infringed the by-law as to line of frontage by projecting the eaves of a coach-house. He was compelled to spoil his design by cutting them away—and *cui bono*? No doubt such tragical-comical instances could be multiplied almost indefinitely; and the question naturally arises whether it is wise to entrust local authorities with the power to make by-laws at all. Let the law as to building be central and sufficiently elastic, and we shall get rid of one of the greatest bugbears of the architect and builder, who every time they go into a fresh district are compelled to study another set of by-laws. This is an intolerable nuisance that must be stopped at once.

The Great Strike.

With the rights and wrongs of the great strike which began at midnight last Friday we have nothing to do, but we must protest that it should not be in the power of any section of the people, no matter how plausible its protestations, or how good its case, to paralyse the entire community in its means of locomotion for no better reason than that the workers cannot get their own way in an exorbitant demand for more wages. It is not merely that grave personal inconvenience, in which matters of life and death may be involved, is suffered individually; but the business life of the country is at stake, and the crippling of our means of transit, on which so many of our industries and so

much of our trade are vitally dependent, has lasted for a very short time to do the irreparable damage. What effect it will have on the building industry is not yet clearly perceptible; but it is obvious that the general holding up of material is a serious set-back at the precise moment when a re-arranging was being made towards overtaking the accumulation of arrears. Lucky are those contractors who are well furnished with motor lorries. An agency notice issued by the Board of Trade on September 26 requires gas undertakings to conserve their supply by forbidding display lighting, limits household supply of gas, and threatens to cut off gas and electricity where there is waste, particularly in "display" or advertisement lighting.

A Mark of Belgium's Gratitude.

The Central Society of Architecture of Belgium conferred on Mr. Ernest Newton, R.A., the rank of honorary member, in token of gratitude for the hospitality shown to Belgian architects by the Institute of Architects. Mr. Newton was President, during the first three years of the war. Those who saw at close quarters the sympathy and charming grace with which Mr. Newton dispensed the hospitality of the Institute to our stricken Belgian allies will need no assurance that his benefactions were not exclusively official. This, however, was but one of the many and strenuous actions which made Mr. Newton's tenure of office unique. It demands on energy, courage, and resource. It is a lesson to us all, and must be especially pleasing to Mr. Newton himself to receive such an assurance as is implied by the bestowal of the honorary membership that his ministrations are held in grateful memory.

Arousing Architectural Interest.

For the delectable town of Deal, famed in song and story for incomparable boatmen, another claim to distinction has been discovered. It is rich in eighteenth-century houses, and seemed to be unworthy of this endowment until a visitor drew attention to it by motoring through the town, Mr. Nathaniel Lloyd, O.B.E., who, as our readers have reason to know, has a very keen eye for architectural quality, noticed some buildings that he thought it worth while to photograph, and it occurred to him to inquire of the Corporation whether it possessed any collection of views of local buildings worth commemoration. As it had never been expected, the reply was in the negative. Mr. Lloyd thereupon offered the Corporation some of his own negatives, to form the nucleus of a collection. His generosity and public spirit were warmly acknowledged by the Corporation, and, we are sure, deserve to be recorded here as exemplifying what can be done towards interesting the public, through accredited representatives, in local treasures of visual interest. Their presence among them the majority might otherwise remain oblivious.

Wooden House Controversy: Some Representative Opinions

WOODEN "mill cut" or framed buildings, similar to those to be seen in the United States and Canada, are being strongly advocated by the "Daily Mail" as a reasonably quick and simple method of overcoming the present housing impasse. It suggested that "mill cut" houses, which are put piece by piece, and are essentially permanent erections, should be erected in large numbers throughout the country. They should not be confused with the Army huts, which are purely a temporary expedient, nor with the "portable" house which is built up in sections. In the construction suggested by the "Daily Mail" each piece of scantling—frames, doors, rafters, etc.—is numbered and is cut to fit its neighbour, blue prints giving the positions of the various details being supplied with the house. An experiment is now being carried out at Newton, near Swansea, where three non-framed eight-roomed houses are being erected under the superintendence of Sir Charles T. Ruthven. They are illustrated on page 415 of this issue, and are described on page 417.

Comparisons have been made showing the difference in approximate cost and the time taken in the erection of the "mill cut" house and the type of house erected by the Government. Our contemporary states that a house providing two bedrooms, a bathroom, and perhaps a bath, could only be purchased from the local authority at a minimum of £400, and the prospective owner would have to wait from four to six months before it could be occupied. It is maintained, however, that a "mill cut" house of the same dimensions and to comprise the same accommodation could be erected for £280 and could be occupied within a fortnight. Where a "mill cut" house of a similar type to a brick or stone one costing from £1,200 to £1,500 is used, the cost delivered in England is put at £1,000 to which another £100 is added as the estimated cost of erection, and there is the additional advantage of saving in time. A house containing from six to eight bedrooms erected in brick or stone would, it is estimated, cost from £1,800 to £3,000, compared with a cost of £600 for a "mill cut" house delivered in England. With a view to obtaining authoritative opinions on the subject, a member of our staff has asked successively (1) Major Maxwell Ayrton, B.A., of Messrs. John W. Simpson and Ayrton; representative builder and contractor; and (2) an architect at the Ministry of Health.

An Architect's View.

Major Maxwell Ayrton, A.R.I.B.A., thought the question had been given that wooden houses originated in America. This is, of course, erroneous. America has, however, reduced the science of "mill-cut" houses to a fine art and rock bottom prices. Sufficient credit had not, he thought, been taken by the "Daily Mail" in estimating the cost. A house of the accommodation given in the "Daily Mail" could not be erected for the sum stated, and he was sceptical as to the time required for erection, because of the necessary foundations, drainage, water supply, and fencing, etc., all of which would be carried out exactly as for a brick house. An Army hut could not be converted in the time given for the complete erection of the "mill-cut" house. The opinion of the architect, he thought, was not necessarily favourable to a standardised house, which in urgent times had become a necessity. Standardised houses need not be monotonous. In the hands of the architect they might be made distinctly diverse by alternative groupings of the houses and by varying the standardised parts. In any form of building that was going to be satisfactory the work would be such as could be carried out by the local authority, and should not necessitate the employment of

large specialist firms only. The "mill-cut" house would be quite suitable for this country except in very exposed positions. The question of transporting the timber, and the quality of the timber available, and the cost of painting and upkeep, would raise serious difficulties. There was also the danger of fire, which would be very great where many of the houses were grouped together. Devastating fires in the U.S. are of common occurrence in timber-built towns. The beautiful old town of Salem, it will be remembered, was entirely burnt out a few years ago. To satisfy insurance companies is a matter of first importance, and cannot be settled lightly. Wooden houses were also apt to harbour vermin. At present the by-laws prohibit the erection of wooden buildings in this country, and any revision of the by-laws would have to make them a permanent and not a temporary solution of the housing problem. The Treasury would also have to allow a longer period for the repayment by the local authority of the loan for the erection of this type of building. Great damage, he thought, had been done by the articles in the Press, which were injurious to the whole problem of housing, by giving the public wild hopes which could never be realised. The trouble was started by the Premier, who promised 300,000 houses a year, subsequently reduced to 100,000. The preliminary groundwork in the solution of the housing question was tremendous. The quick methods of building in America are the result of years and years of work, and cannot possibly be emulated in this country at a moment's notice. It is a question of vast organisation, machinery, and training of expert labour.

A Builder's Opinion.

A prominent builder pointed out that the "wood-framed" house had proved its worth in Canada and the United States, and it would compare very favourably with the wooden buildings which still exist in Essex and in other parts of this country, and with those which are to be found in Northern France. The question as to whether the "mill cut" house could be made in America and delivered in this country could only be answered by getting estimates. There would, of course, be considerable danger of fire, and the houses would require frequent painting. In America the wooden house was originally roofed with shingles, but slating was now used, and this latter form of roofing would have to be adopted in this country in the interests of public safety. The wooden house as built in America had a rather unsubstantial appearance. He questioned whether we in this country could manufacture "mill cut" houses at the prices given. Builders, he thought, would not be unfavourable to the import of the "mill cut" house from America, but opposition might be encountered from the operatives.

Ministry of Health and the Bylaws.

A representative of the Ministry of Health stated that the Ministry was now preparing a new set of regulations which would enable local authorities to escape from their own bylaws in given cases and to make housing experiments, which would include tests of wooden houses. The new bylaws would, of course, apply not only to building undertaken by the local authority, but also to building by individuals. The Ministry must be guided by very important financial and social considerations—especially financial. Wooden houses had never been tried in damp climates in England to any great extent, still less in industrial districts where the wear and tear of buildings was exceedingly great. The Ministry, however, were giving the matter sympathetic consideration, and it is hoped that a specimen framed house may shortly be erected to the standards of the department, which would be subject to careful examination by experts.

[For Editorial Comment see leading article, page 405.]

Architectural Causerie

IN another part of this issue of the Journal will be found an article describing old shop fronts, and illustrating some particularly good types from Woburn, down in Bedfordshire. After reading the article in proof the thought struck me that I should like to amplify some of the facts mentioned, for the subject is one of interest to my taste. As a matter of fact all Englishmen take a delight in small trading establishments, whether they encounter them in out-of-the-way places or in the chief streets of cities. As a nation we are individualists—a trait reflected in the vernacular architecture. We have not yet come to a complete understanding of shopping at the stores, but the signs indicate that our education is improving. All the same, I for one will not forswear the small shop, be it old or new, providing the architecture is exceptional.

* * * *

The shop front of yesterday has long been my favourite study. Conjectural restorations, and archæological descriptions of old Rome and Pompeii give me the atmosphere of shopping in the days of the ancients. I have a tolerable idea of the shops of Chaucer's time, and the character of the open shops schemed beneath the Italian palaces in the sixteenth century is familiar to me. Should I desire to refresh my knowledge of the shops of Wren's day, or those Hogarth knew so well, the Crace collection at the British Museum is open to my study. But I prefer something more modern, and am content to roam at will up and down the country holding imaginary conversations with the carpenters and architect-builders who contributed their quota to the spacious days of the Georges.

* * * *

I am not a fanatic, neither am I obsessed with eighteenth-century pomposity. On occasions I have all Cockerell's respect for plate glass, when properly distributed; but my weakness is a partiality for the old shop, which I class with old friends, old wine, and old books, knowing that it is to my profit to cultivate the acquaintance of all. Worthy shops appeal to me primarily because I have read about them, and, secondly, for the reason that sufficient numbers exist to excite my curiosity. Very human are the bow-fronted, straight-sided, reeded, fluted, and delicately sashed shops of my acquaintance. There are some new friends of my fellowship dotted up and down the country, the work of architects with a knowledge of the right thing. Some of these late arrivals I have seen in Bath, others in Edinburgh, and a goodly sprinkling within a quarter of a mile of Piccadilly.

* * * *

The problem of the moment is the correct adaptation of the antique theme; that is to say, how are we to convince the shopkeeper that goodly architecture begets commerce? We architects may cherish a liking for the Louis Seize or Empire shops of old Paris: perhaps we long for opportunities to emulate the bronze creations of the Rue de la Paix. Critics of our methods are prone to take the part of the trader, who only thinks of the goods he sells rather than of the case he uses in which to display his wares. Ten or twelve years ago it was the custom of the trader to crowd his windows with goods to the confusion of individual merits; he sought to bludgeon customers into purchasing goods by a direct frontal attack. One or two West-end traders, becoming acquainted with Parisian methods, thought it politic to enlist the services of architects to assist them, with the result that a new system has been started, and high-class methods now prevail.

* * * *

Reader, you will compare the foregoing remarks to jargon, so I will get on with my tale and keep strictly to the matter in hand, which is to give a short account of an

architect who must be regarded as the doyen of front designers. The delectable article on the Woburn shops has whetted my thirst to emulate it, so I will begin by remarking that George Maddox, whose biography is given hereunder, designed the splendid chemist's shop in Tavistock Place, Woburn Square, a year before the death of William the Fourth. The career of George Maddox connects the works of the leading designers of the late eighteenth and early nineteenth centuries; his influence on architectural design was almost as great as that of other professional men of his day. Yet for some obscure reason he remained almost unknown, content to postpone all other considerations to his pursuit of art, for from first to last he remained a student. George Maddox was born in Monmouth in the year 1750, the son of a local builder, to whom at an early age he was apprenticed; but his was a spirit yearning for opportunities, so he made his way to London, and in due time obtained a berth with Mr. John Soane as an assistant. It is not stated how long George remained with the irascible Soane, evidently not for any length of time, for he eventually left him in disgust. Master and assistant both possessing remarkable personalities, they long a battle royal between them, and George, the more assistant, preferred independence to tamely submitting to the tyrannical temper of his forceful master. The rumour to the effect that ungenerous conduct on Soane's part caused the rupture.

* * * *

Some time after, George Maddox became in some way involved pecuniarily with the affairs of the Pantheon in Oxford Street. This embarrassment was followed by another. Having obtained the patronage of the Duke of Cumberland, brother of the King, he prepared designs for the building of an Opera House in Leicester Square, but just as the final arrangements had been made the Duke died. It would be of interest to many of us to see this design, which is remembered to have been on a great scale, but unfortunately all trace of it has vanished. The hero of this week's gossip was an enthusiast. He had the true flair for Greek design, but content, however, to copy and reproduce existing examples, but to make the Hellenic spirit conform to modern usage. An exceptional architectural design he added to his reputation as a painter of architectural subjects in oil; he was an etcher of considerable power, and for many years taught young architects the elements of their profession. A hundred years ago Maddox was acting as Clerk of Works at Clarence House, then being under the direction of Benjamin Wyatt for Frederick Duke of York, and perhaps he acted in the same capacity at Strensham Court, Pershore, Worcestershire. He followed the lead in architectural oil-painting set by Gandy, and for the character of the buildings designed by him for private clients developed an original rendering of Greek.

* * * *

At this stage we come to an account of his power as a deviser of shop fronts. As recently as twenty years ago there was a remarkable specimen of his skill in the design of the chemist's shop in the Strand, opposite the Church of St. Mary-le-Strand. I infer that a shop in Colindale Street and another in Bond Street were designed by him, and have long admired several in Lamb's Conduit Street which suggest his peculiar style. The chemist's shop in Tavistock Place is fortunately preserved intact; recently it was repainted, but such is the respect paid by decorators to existing work that a fair idea of the stippling and graining specified by the architect, when Bloomsbury Square was new, can be obtained. How I hate to see who sanctioned the removal of the Doric columns from the counter front. Tucker's, a well-known glazier's shop in High Holborn, was designed by Maddox, and the



Draper's Shop, High Street.



Boot Shop, High Street.

SOME OLD-TIME SHOP FRONTS FROM WOBURN, BEDFORDSHIRE.

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reason to believe that Tregaskis's old shop near court to Whetstone Park, in Holborn, recently opened, was the result of his taste and care.

It is known that Professor Cockerell, Sir Robert Kerr, and many other architects had a friendly relation for his school of drawing. Soane alone could overcome his jealousy. Decimus Burton was one of his pupils, and later on was instrumental in securing a collection of his old master's drawings for the Institute. In the years passed Maddox suffered physically, his illnesses being severe. For a long time he gained his living by teaching and preparing drawings for his more

successful confrères, and reaching the age of eighty-three, he died on the seventh of October, 1843. The name of George Maddox deserves a place in the annals of the Institute. His career is an example of talents kept in abeyance; his was the noble task of imparting knowledge to others, while subordinating his skill to the treatment of shops. Yet I doubt if there is a better shop than the one in Tavistock Place, and although I may never have the privilege or obtain the consent of the Duke of Bedford to search the estate accounts at Woburn, I am inclined to agree with the contributor of the Shop Front article that George Maddox prepared the draughts for the shops enriching the Bedfordshire town.

AERO.

Old Shop Fronts

IN SPITE the changes taking place in all parts of England, it is surprising to find how country shopkeepers cling to the characteristics of their premises. Once it was generally believed that the bow-windowed shop, glazed into small squares, belonged to a primitive order of things. Since that time, fortunately, one has become educated to an appreciation of the ugly-looking shop, not, let it be imagined, to the detriment of those establishments relying on plate glass to make a brave show of goods, but directed in the main to the newer kind of shop now required in connection with housing schemes. Shops and their fitment come within the province of architecture; the best shops are planned by architects, no matter whether they grace Pall Mall in London or, equivalents to that, famous thoroughfares in any provincial city. For the rest, nothing special can be said, but it is pertinent to observe that good design brings business. The shop fronts familiar to Jane Austen and Charles Lamb are now attracting attention. This does not mean a revolution in style; neither do enthusiasts expect the shopping streets of London to sport the glazed showcases created by Tallis. Architects are responsible for the change; they have recently adopted a reverential attitude towards the stage settings of their great grandparents, and it is their ambition as a body of artists to extend the benefits of communal life in a manner at once fitting and ideal.

Nearly every modern housing scheme includes a shopping centre; the architect, realising his opportunity, determines to make things pleasant for those who will people his centres. If he is a man of ideas he is above the mention of broadways and parades; he arranges his shops intimately, grouping them where they are essential and not too far removed from the whole range of houses. If the scheme is small he wisely limits the number of shops, and takes care to introduce them into prominent corners of the housing groups. The fact is, the more we progress in our study of communal needs the more we are forced to acknowledge the superior instinct that determined things of this nature a century ago. Having dealt with the question of selecting theories and motifs from the past, and pointing out how they can be adapted to certain specific problems, this article proceeds to describe certain old fronts of unique character.

On a rough computation there are at least five thousand types of old shops scattered up and down the country. Every cathedral city holds something original; all the important cities and towns of the provinces are proud to show visitors some antique survival which has refused to be moved by the platitudes of its pompous neighbours. We all look upon such worthy ancients with kindly eyes; there is none among us who would not go cheerfully out of his way for the pleasure of making a purchase amidst the surroundings of another day. Old shops have a personality, they invite



ROW OF HOUSES WITH SHOP FRONTS IN HIGH STREET, WOBURN, BEDFORDSHIRE.



SHOP FRONT, HIGH STREET, WOBURN.

conversation, we admire them as we admire country squires and farmers; they stand for the solid bad old days of roast beef and port; they recall all we remember to have read of early umbrellas, beades, and stage coaches; moreover, they invite us to take snuff with them. Whoever heard of a man holding converse with a sheet of plate glass, other than to remark, "I told you so," when a horse and cart shiver it to pieces. In the year 1794 it was quite exciting for the grocer of a small country town to consult with the local Will Pain regarding a new shop front. We can imagine his conversation with the worthy craftsman. "Friend, I have need of thy skill; my business is prospering; since the town has been favoured with the military at the new barracks all the officers' ladies come to me for China tea. Only yesterday Lady Everingham from the big house stopped her carriage and sent me an order by John for six pounds of preserving sugar. With such custom I must look to it to secure the patronage of the nobility and gentry. Prepare me a draught of thy own fashioning for something handsome in the way of a double window, bow-fronted, if the cost be not too high." "Grecian, did you say, friend?" "What is Grecian? Roman? Well, well, I will leave it to you so long as it be in the mode." Will Pain prepares his pencil draught and submits it. Six months later the new shop front graces the lower part of the red-brick building, to the astonishment and admiration of the post mistress, the driver of the cross-country mail, and Sir Charles Newman, who has just received an account from Holland for designing a Gothic conservatory and rookery at Northill. A hundred and twenty years pass; the old shop, twisted by the weather and wearing countless coats of paint, stands in the street facing the Brewery house as sound as ever, tolerant in everything save the vibration of the motor buses.

During a journey through Bedfordshire the writer arrived one afternoon at Woburn Town, a most delectable assemblage of houses and shops standing just outside the ducal park. The weather was hot; the warm brickwork competed with the white paint to produce a dazzling perspective, and the buildings in the High Street suggested a number of redcoated Hanoverian Grenadiers, accoutred and pipe-clayed, awaiting inspection. (See view on page 411.) There they stood, sized conveniently, superior to the lesser houses of the place, some owing allegiance to Flitcroft's work at the Abbey, but all consciously proud to belong to the estate. As the writer stood in the centre of the street, lost in admiration of the perfection on either hand he began to speculate on the influence these buildings had exercised upon the lives and manners of thousands. He thought of the days when Flitcroft's artificers, having finished their work at the Abbey, added one or two new brick fronts alongside those of earlier date in Woburn Town. He opined that Sir William Chambers must have had some idea of the town when he was asked to design

the bridge in the park soon after renovating Houghton Towers at the request of the Duke.

To the writer it was evident that Holland knew his place well; perhaps the suggestion for the new entrance on the Hockliffe Road came from him; it certainly looked the distance from London. Holland was held in high esteem by Francis Russell, the fifth Duke, who caused a marble bust of the architect by Garrard to be placed opposite the entrance to the sculpture gallery. The foregoing has little to do with the subject, and will pass forthwith. The main thing is to continue the discussion of the old-time shop fronts of Woburn, which since more than a century ago were added to the genteel residences which had sprung into being near the palace like courtiers round a prince.

As we study the shop fronts of this select town, the truth is borne upon us never to insert a front for the sake of play of goods; where space admits, a goodly proportion of the whole shop should follow. It is obvious that the carpenters of other days treated their subjects in a generous spirit, interpreting the chief need of the customer-keeper to be a species of official showcase. As a traveller proceeds along the High Street, Woburn, he will notice a rare diversity of design, not only in the shaping of individual fronts, but in the originality of the severe ornament.

At the corner is a double-fronted stationer's shop with canted ends (see view on p. 411). Adjoining are two exceedingly ornate fronts applied to the basement storey of a pair of 1730 brick houses. These fronts can be studied in detail from the illustration given above and the lower one on page 409. They are comic shop fronts (similar to the last mentioned) where the desire for faultless symmetry ruled out all considerations. One of the most convincing fronts is the draper's (p. 409). In this design the showcase is very elaborate; the introduction of the order is appropriate, and the fanciful glazing on either side of the central fanlight indicates the stitchery to be found within.

Another shop front (top p. 413) belongs to a very different sphere; to some extent it is an Empire in style, but in the main it is eloquent of the work of George Maddox, and in regard to it would not be surprising to find that the talented draughtsman had something to do with the foregoing showcases. Not only is Woburn, an



HOUSE IN HIGH STREET, WOBURN.



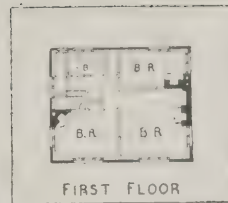
Corner Shop Front.



Shop Front, High Street.

SOME OLD-TIME SHOP FRONTS FROM WOBURN, BEDFORDSHIRE.

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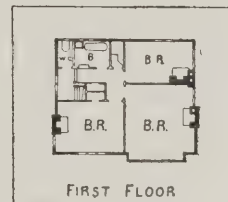
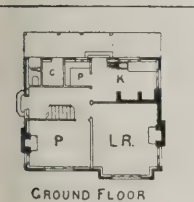


GROUND FLOOR -
- ROOMS -
LIVING RM 14-0 x 10-3
KITCHEN 14-6 x 14-0
PORCH 14-6 x 8-9
BATH 6-0

- FIRST FLOOR -
- ROOMS -
BEDROOM 14-6 x 14-0
Do 14-0 x 10-3
Do 14-6 x 8-6
BATHROOM 6-0

COTTAGE at NEWTON MUMBLES S.WALES

SIR CHARLES T. RUTHEN, F.R.I.B.A.
CHARLES W. MERCER, M.S.A.
Architects



GROUND FLOOR -
- ROOMS -
LIVING RM 13-9 x 10-0
KITCHEN 15-3 x 14-0
PORCH 14-0 x 8-9
BATH 6-0

- FIRST FLOOR -
- ROOMS -
BEDROOM 16-1 x 15-0
Do 14-7 x 10-0
Do 15-0 x 9-1
BATHROOM 6-0

COTTAGE at NEWTON MUMBLES S.WALES

SIR CHARLES T. RUTHEN, F.R.I.B.A.
CHARLES W. MERCER, M.S.A.
Architects

COTTAGES ERECTED ON A RAPID SYSTEM OF CONSTRUCTION AT NEWTON, MUMBLES, SOUTH WALES

SIR CHARLES T. RUTHEN, F.R.I.B.A., AND CHARLES W. MERCER, M.S.A., ARCHITECTS.

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es of the surrounding district, rich in shop fronts, very good houses likely to prove useful as architectural models abound. An illustration of a brick house (412), wearing a quasi-Oriental mantle, is given to show how carefully the estate was managed in the great effort of design, when dissenting schools of thought were given a place to prove their respectability. The writer, having rendered an account of discoveries in Bedfordshire, commends the subject of shop fronts to the attention of his readers. He wishes his friends could have accompanied him on his expedition, for a lasting impression would have been made upon the townspeople, and he is inclined to petition for larger sheets of glass might have waived their claims in face of concerted opinion.

C. Ruthen's Experiment in Rapid House Construction.

View of the housing controversy which is at the present moment agitating the daily Press, special interest attaches to three houses which have been erected upon an exceedingly exposed site at Newton, overlooking the Bristol Channel, and which, when finally erected and fit for occupation, will have been erected in less than sixty days. The first house will have been completed in erection, from the cutting of the first sod to the actual opening of the furnished dwelling, the record of thirty days.

Sir Charles T. Ruthen, F.R.I.B.A., the architect who for many years has been a powerful advocate of municipal enterprise in house building, is responsible for these rapid and timely examples of rapid construction. Sir Charles claims that the system adopted is in reality an ancient system adapted, in the designs illustrated, to British tastes and prejudices. He deems, also, in relation to housing there are five essentials at the present serious period in the life of the nation—rapidity of construction, weather-proof qualities, strength, lasting qualities, and cost, and he holds that this is the proper system in which, at the present moment, to set out these

According to Sir Charles Ruthen, the principal requirements in house building are complete protection from the weather, stability of the structure, and lasting qualities, and he claims that if these three conditions are complied with it matters little what system of house building is adopted. It is claimed that the houses illustrated possess the qualities necessary for the provision of proper shelter for the people, are cheaper than ordinary houses, and are erected in less than one-quarter of the time, and are fit for occupation immediately upon completion.

These houses are built upon a system very similar to that employed for over 200 years in the American Continent—namely, a system under which certainly more than 75 per cent. of the private houses in America are built. Sir Charles Ruthen has adapted the system to English architectural ideals, and has produced three extremely artistic houses, two of which are illustrated in this issue. One house is rough-cast entirely upon the exterior; the second has a half-brick veneer carried up to the eaves; and the third has a half-brick veneer up to the first-floor level, and a half-timber work above. The system in each case is the same: that is to say, 4 in. by 4 in. wooden frame work, 16 in. centres, braced and propped.

On the outside and inside a special bitumen vermin-proof sheeting, upon which are dove-tailed horizontal battens fixed to the wooden framework, and upon the outside in the case of the rough-cast house two coats of cement plaster are applied, and in the case of the houses with brick veneers one coat of cement plaster. Upon the exterior two coats of plastering are applied. The first is roofed with Precelly Rustic slating, the second with Welsh Green slates, and the third house with grey tiles.

Sir Charles Ruthen points out that he is endeavouring to experiment to indicate in a practical form that

houses are required much more rapidly than the present efforts upon the part of the Government and municipalities promise; and that some rapid and yet satisfactory system is imperatively demanded if serious industrial unrest is to be avoided. It is certain that, given fair play and relief from old-fashioned official methods, with their endless red tape, perfectly satisfactory houses in every respect can be erected in as many weeks as ordinary pre-war methods of building take months.

Sir Charles states definitely that the houses erected under this system are bone-dry—certainly a highly important advantage over the vast majority of brick and stone houses—cool in summer and warm in winter. It is understood that these houses at Newton are to be simply furnished, and will be open for public inspection within the next few days.

Canadian Timber House Accepted by Ministry of Health.

On behalf of a Canadian timber firm, Mr. F. C. Wade, Agent-General for British Columbia, has offered the Ministry of Health a sample wooden house of a type very popular in Canada, which, it is believed, can be adapted to British needs. The Ministry has accepted the offer. Negotiations are under way to hasten the building of the house and have it shipped and put up in this country.

"While we have offered to supply a sample house to the Ministry," Mr. Wade explained, "we cannot undertake to get it transported to this country, although we are ready to co-operate to our utmost. That must be a matter for the Ministries of Shipping and Health to arrange between them. We offer wooden houses. Let the Ministry arrange to get them here."

The Plates Described.

Some Old-time Shop Fronts.

LOOKING at these charming old shop-fronts, one can hardly help reflecting that the means of producing huge plates of glass was the ruin of reticence and decorum in the shop-front. For a description of the examples shown on pages 409 and 413 see the article on page 411.

Cheap Cottages.

These, at Newton Mumbles, are described above. On the whole, the elevations are pleasing, but the mixture of styles is a jarring note. Georgian and Elizabethan, like "crabbed age and youth," match not well together.

Conversion of Houses into Flats.

The plates of plans here shown are from the memorandum by the Ministry of Health printed on page 418. See plate pages 420 and 421, and 423.

Our New Cover Illustration.

This week, in pursuance of our desire to keep fresh the interest in the front page of the Journal wrapper, we have withdrawn the fine sketch by Mr. Harold Falkner, and have substituted a drawing by Mr. Hanslip Fletcher, who has given us a masterly rendering of the Strand front of Somerset House. Mr. Fletcher handles street architecture in a manner that is more faithful than photography, for the simple reason that the camera does not see with the artist's eye, and does not "interpret" the subject as an artist must. In a word, the camera lacks the most precious attribute of artistry—that is, of course, temperament. In Mr. Fletcher's architectural drawings, temperament is always kept well under restraint; he recognises, no doubt, that it is a good servant but a bad master. Even in his most ambitious pictures, he is always supremely loyal to his subject, in colouring as well as in shape. In our cover design this objectivity is conspicuous, although this view of one of London's noblest buildings is wrought with feeling as well as faithfulness.

Conversion of Houses into Flats:

Important Memorandum by the Ministry of Health

THE Ministry of Health have just issued, for the guidance of local authorities, a manual dealing with the conversion of houses into flats for the working-classes. This manual, which may be obtained from H.M. Stationery Office, price 1s. net, is a very careful survey of the whole subject in its various aspects, and should be found of considerable value as a general guide by those who contemplate undertaking works of conversion. It is accompanied by a number of typical plans, before and after conversion, and a selection of these is given on certain of the plates in this issue.

It is imperative, says the memorandum, to secure as great an increase in the amount of accommodation available as is possible before next winter, and the Ministry of Health are therefore anxious that local authorities should without delay press forward their schemes for the erection of new houses, and should in addition adopt any other methods which will increase the housing accommodation in their district. The new Housing Act gives them the power to acquire suitable houses and convert them into flats, and while the Ministry are anxious that local authorities should not in any way relax their efforts to hasten the erection of new houses, they think that these efforts should be supplemented by taking advantage of the powers contained in the new Act with regard to the conversion of houses into flats. Local authorities will appreciate that the chief advantage to be derived from the conversion of existing houses into flats lies in the fact that schemes with this object in view, where practicable, can be proceeded with and brought into operation at once, and the Ministry of Health consider it essential that, where the local authorities are of the opinion that some help towards the solution of the housing problem in their district can be secured by the carrying-out of such a scheme, they should put it in hand at once.

Class of Property Suitable for Conversion.

Before formulating a proposal for the acquisition and conversion of houses in this way it is important for the local authority to satisfy themselves that the houses under consideration are reasonably suitable for the purpose of conversion, and, in this connection, they should take into consideration the nature of the district in which the houses are situated, the construction of the houses, and their general state of repair.

The local authority, by reason of their local knowledge, will usually be in a position to judge whether a particular property is suitable for conversion. It is not practicable to lay down rules for their guidance in this matter, but, generally speaking, the widest scope for the operation of a scheme of this kind will be found in districts or roads which consist mainly of large houses for which the demand has fallen away owing to changes in the character of the neighbourhood. There are, no doubt, other districts in which, while little or no conversion has as yet taken place, it will be known to the local authority that a gradual depreciation of the property is taking place, in which the prospects of a continued letting of the houses to the class of tenant for whom they were originally built are becoming less favourable from year to year, and which may reasonably be regarded as a district in which conversion may properly be

undertaken. It is not suggested that a local authority should seek to acquire empty houses indiscriminately; for instance, it would be undesirable to acquire an individual house which happened to fall empty in a neighbourhood in which similar houses continued to let generally without difficulty.

Suitability as Regards Structure and Repair.

The construction of the houses is also a matter which will require careful consideration, and those houses which can be converted with the minimum of cost of structural alterations are to be preferred. The local authority should not limit their enquiries to large houses. Terrace houses should also be considered, for while these, when taken singly, may be difficult of conversion, they are capable of conversion into convenient flats with one common staircase, when taken in groups of two or more, the other staircases being removed and the space formerly occupied by them being devoted to increasing the accommodation.

The state of repair is another important factor which should be carefully examined. If a house is of too antiquated a type or has been empty for a long time the cost of repairs, structural alterations, and the installation of such a minimum of modern conveniences as would be regarded as essential nowadays might render the cost of conversion prohibitive.

The variations in the nature of the structure of houses and in the degree in which they have been kept in repair, render it, however, impossible to lay down any general rule which would be applicable in all cases. For instance, there will be cases where a house, though old, will be structurally quite sound and generally suitable for conversion, or a derelict house which has been unoccupied for a long time may be well worth restoring for conversion if the fabric has not seriously deteriorated.

General Structural and Sanitary Requirements.

In looking at a house with a view to conversion the local authority must, of course, consider the extent of the structural and other alterations which will be required to render the house fit for habitation. Section 24 of the Housing Act states that the provisions of any building bylaws in force in a district shall not apply to buildings which form part of a scheme approved by the Ministry, and are constructed in accordance with plans and specifications approved by the Ministry. In order, however, to obtain the approval of the Ministry to a scheme of conversion it will be necessary for the flats provided under the scheme to comply with certain standards in regard to stability of structure and sanitary matters, and generally in regard to the matters for which bylaws may be made under Section 26 of the Housing Act; the model bylaws drawn up by the Local Government Board under the powers contained in the Public Health Acts in regard to houses let in lodgings are now being extended in view of the additional powers conferred by that section.

In particular, adequate provision should be made for the following matters:

(1) For enforcing drainage and promoting the ventilation of the houses.

The local authority should satisfy themselves at an early stage that the house is or can readily be made satisfactory. Care should be taken that no large alterations will be necessary to secure this object.

With regard to ventilation, the house should have through ventilation from front to back or from front to side.

(2) For requiring provision to be made for the use of, and readily accessible to, each family, of

(i) Closet accommodation.

(ii) Water supply and washing accommodation. Water should be laid on to each flat.

(iii) Accommodation for the preparation, and cooking of food.

Provision should ordinarily be made for cooking in the scullery, which should be fitted with a sink and draining.

The food store should be ventilated to the open air and the opening should not be less than 12 in. by 9 in.

For the purposes of a coal store, a room might be utilised. It should hold not less than 2 cwt., and should be placed in a convenient position.

Provision should be made for a dustbin for each flat to be placed outside the dwelling and in the open air.

Financial Assistance and Suggestions Regarding Acquisition.

It is incumbent upon the local authority to render schemes of conversion as self-supporting whenever the circumstances of the case will permit, to acquire the houses at the lowest cost practicable, to ensure the fullest economy in the conversion, and to the fulfilment of the general requirements indicated above, and to obtain the best rents which the class of tenants to whom the flats are intended can reasonably be expected to pay.

When, however, a loss is unavoidably incurred in connection with a scheme for the conversion of houses, the scheme should rank for the purpose of financial assistance from the Government as part of a local authority scheme of a local authority, and general financial arrangements applicable to schemes for the provision of new houses will also be applicable to these schemes.

The total cost of the acquisition and conversion should be very substantially less than the cost of the provision of an equal number of new houses. The local authority should endeavour to obtain the lowest possible price, and it will be specially desirable to do so where there are restrictive covenants or there is only a short period of leasehold unexpired. When the local authority proposing to acquire leasehold property preference should be given to offers with a long period of the lease unexpired.

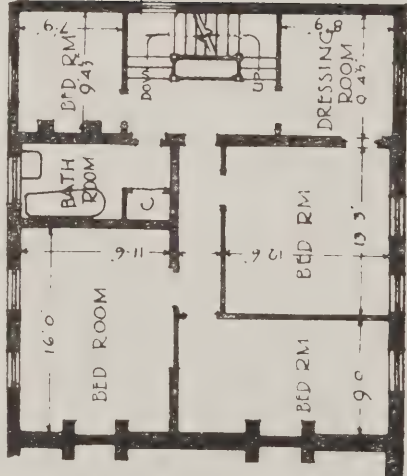
Typical Plans.

Each scheme of conversion will require consideration on its merits, and it is important that at an early stage the local authority should consult a competent architect (preferably one who has experience of this kind of work) to advise on the suitability of the house for conversion and the methods to be adopted.

Model plans are given which will indicate the kind of work to be carried out in connection with schemes of conversion, but, as indicated above, each scheme requires separate consideration.

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SEMI DETACHED - BEFORE CONVERSION

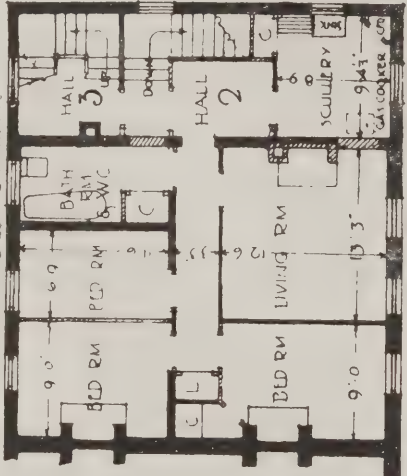


FIRST FLOOR PLAN

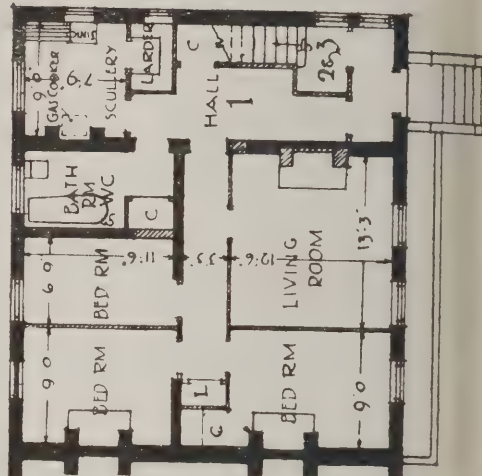
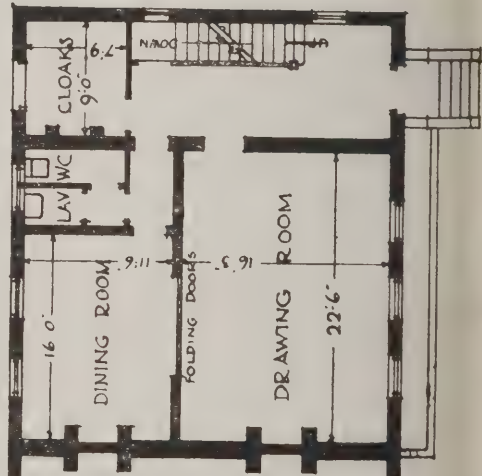


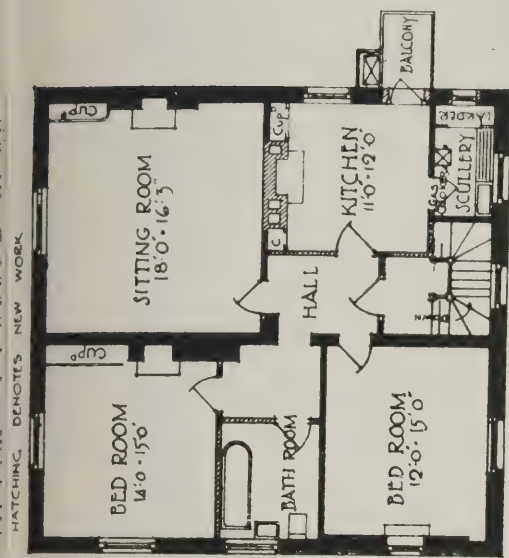
SEMI DETACHED - AFTER CONVERSION

1 FLAT TO EACH FLOOR
MATCHING DENOTES NEW WORK



FIRST FLOOR PLAN

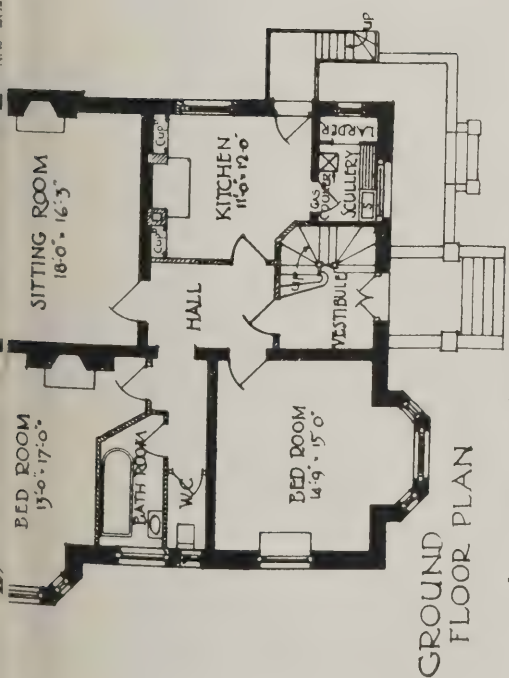




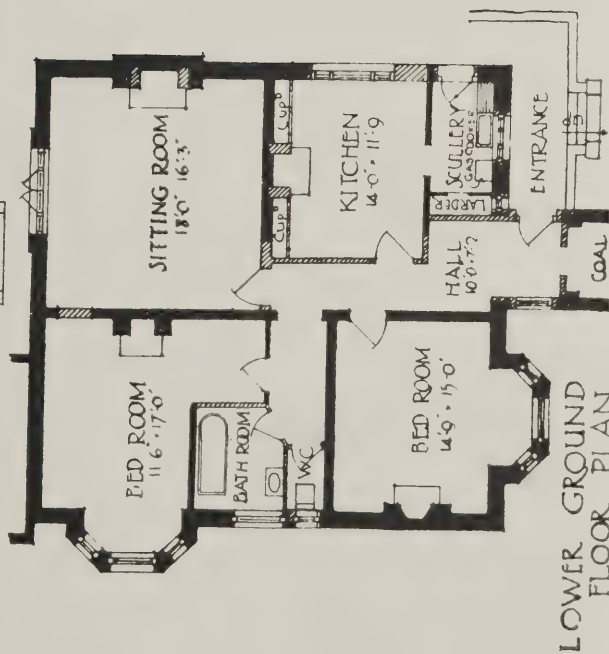
SECOND FLOOR PLAN



FIRST FLOOR PLAN



GROUND FLOOR PLAN



LOWER GROUND FLOOR PLAN

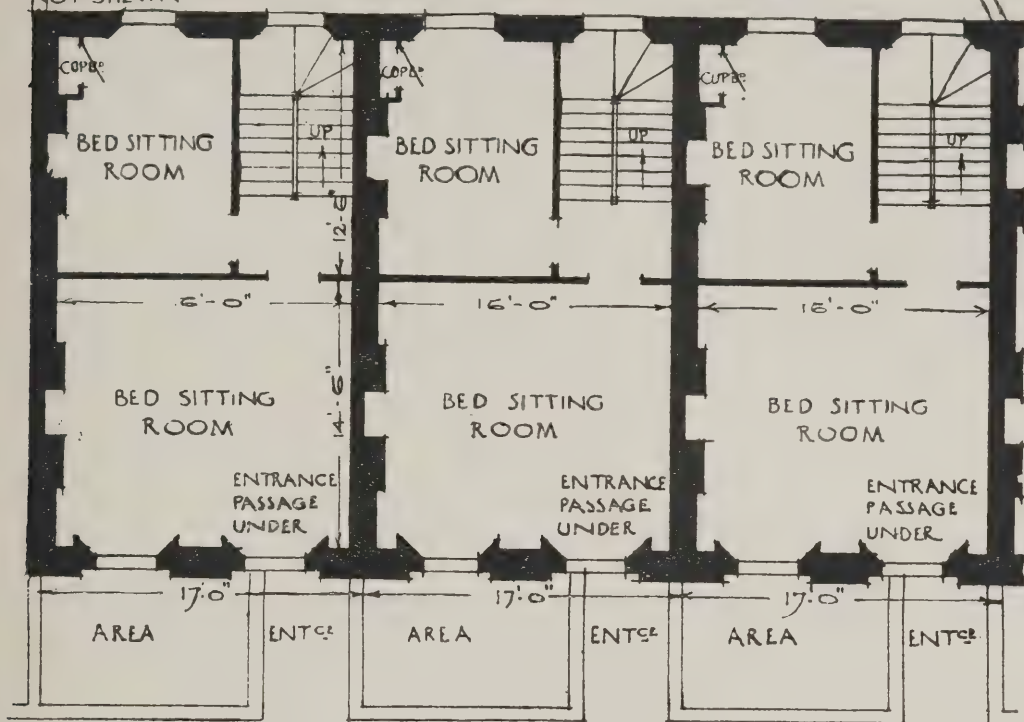
PLANS SHOWING CONVERSION OF SEMI-DETACHED AND DETACHED HOUSES INTO FLATS.

(From the Ministry of Health Memorandum.)

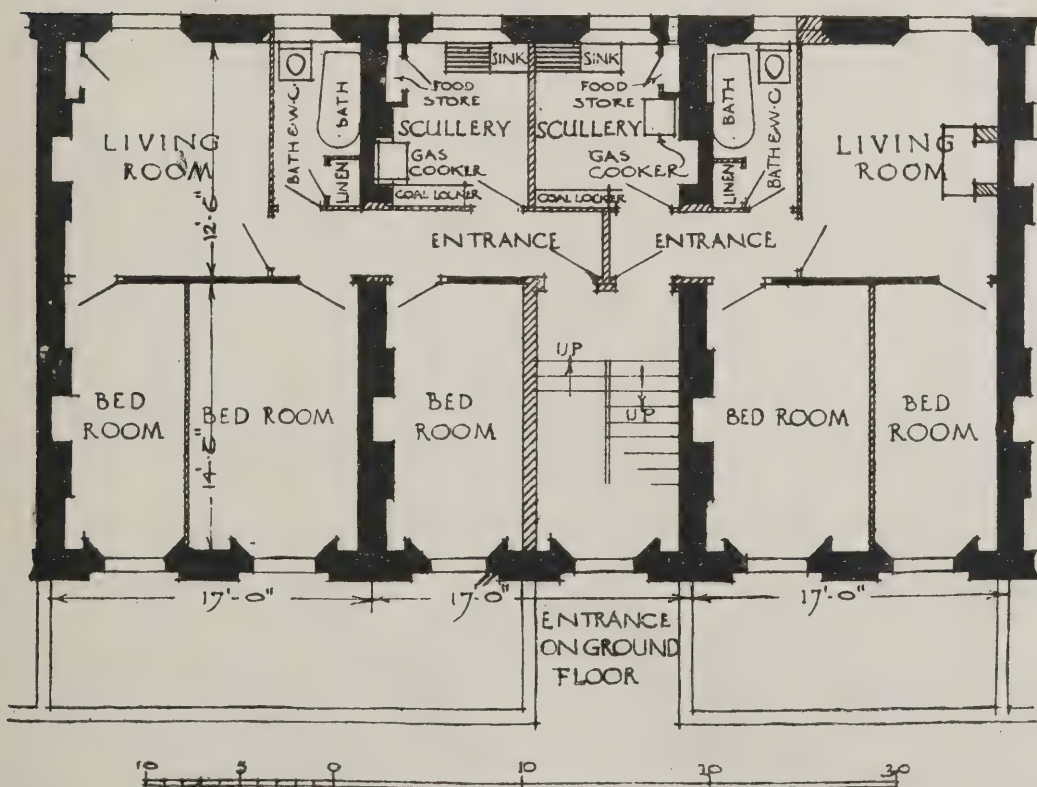
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17'0" FRONTAGES BEFORE CONVERSION

N.B. W.C. IN
BACK YARD
NOT SHOWN



17'0" FRONTAGES AFTER CONVERSION



PLANS SHOWING CONVERSION OF ADJOINING HOUSES INTO FLATS.

(From the Ministry of Health Memorandum.)

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CORRESPONDENCE.

Plainer Words on Pisé de Terre.

—It would be a sad anti-climax to the "Mr. McR.'s" eloquent protest to pisé de terre walling by endeavouring to point out its humble merits. The First might as effectively have argued with the inspired bard who, from his rocky eminence was calling down on his banners. For there is a peculiar flavour about the comminatory service that "Mr. McR." has read in pisé building before which mere shrinks. The mantle of denunciation which descended from the brew prophets upon the shoulders of the style, has again found a wearer.

the following reverberating: "Whether or not pisé de terre is noxious to health, whether it sucks moisture from the outside and chokes it into the room, whether or not cracks in the fervent heat or after a hard frost, or whether it is fested with infusoria and gives off emanations—independently of all considerations, the insuperable objection to rammed earth as a building material is to call it for want of a more appropriate term—is its unutterable meaning." "Mr. McR." (I will respect his personal anonymity) has a pretty turn for literary innuendo and the grudging admission of what damns. Pisé may or may not be that is claimed for it. It may or may not help to solve the extremely grave housing situation. There are those, whose unimpaired opinion "Mr. McR." would not believe it may have such a pending complete and undeniable effect of its value or, on the other hand, a demonstration of its worthlessness, a suspension of judgment on the pisé question is all that it is reasonable to ask. The matter is still *sub judice*. I think "Mr. McR." may find that he has himself and his generation an ill to pay by his over-hasty condemnation of anything—or, rather, of a thing new to him—or I could quote him high praise of building from the Classics.

remaining facts, regardless of logic, and of history and not stooping to argument, "Mr. McR." tries to make pisé in a web of words. He calls for plain words," but the meaning of them is, I must own, too elusive. The following, for instance, is a little baffling: "It cannot be too emphatically repeated that the great and insuperable objection to them (pisé buildings) is the very raw material of which the walls are made, with the implied implication of various standards. This implication need not be specified in detail. Those who know and feel it will understand the particulars." Such vague and nervous hostility renders effective argument a little difficult. It would be better to fit a jelly-fish with under-shirt buttons. But, so far as I can make him out, "Mr. McR.'s" root objections to pisé are based on ethical, sentimental, and religious grounds. In his view, it is claimed that earth should lie loose and roughly horizontal, and to compress it so that it stands erect in monolithic form is an impious act, against God and against all nice feeling, and likely to bring calamities on the foolish head of him so presumptuous as to so divert it from its proper and pre-ordained function of giving his daily bread. One would think that this high office would

in itself have commended the common soil to an honoured place in the estimation of "Mr. McR." But, no, it pleases his humour to stigmatise it as a base and ignoble substance. If earth be indeed base, so also are the rest of the old "elements"—air, fire, and water. Yet do we make a very fair use of them. Bricks, we are told, possess an inherent dignity peculiar to the genus "cooked." They have, it is asserted, been purged of their native grossness and ennobled by the magic touch of fire. It is a beautiful thought. Yet God's earth, baked by God's sun, is, it seems, a mean and contemptible substance unfit to go to the making of a human habitation. He who would build a dwelling meet and proper for a Christian family must first offer up a burnt sacrifice of precious coal at forty shillings a ton; many tons of it. Only so will he have a home of bricks and "Mr. McR.'s" approval. Nice hard, sand-faced, well-burnt bricks or *nothing*. But where has "Mr. McR." spent the five tremendous years since August, 1914, whilst the old world died in bearing us the new? Surely in some secluded retreat where the news that all had changed was kept from the happy innocents within its gates. On no other assumption can his attitude be credibly explained or his sentimental trifling be excused.

Those who are houseless and homeless are in no mood for levity and frivolous obstructionism. "Mr. McR." pours scorn on the suggestion that economy—mere economy—should influence one's choice of a material. To save a hundred or two per cent by structural innovations is to him "unutterable meanness." But £100 saved on each of a million cottages gives us £100,000,000 for further cottages or for other vital public works and services. "Mr. McR." is magnificently above such gross and material considerations. He is unaware, I imagine, that his country is "not paying its way"—he cannot have heard of the coal shortage, the transport shortage, or the labour shortage. I doubt, indeed, whether he has at all realised the gravity of the cottage shortage. In any case it is very evident that he knows little of pisé. He calls it "cheap and nasty" and scorns to find out even enough about it to prevent his muddling it up with "cob."

"I have never seen pisé, I never want to see pisé, it's agin the Scriptures, and I don't hold with it anyway"—that is "Mr. McR.'s" attitude. Still, if he should ever care to supplement his own imaginings with a few actual facts, he is very cordially invited to inspect the pioneer pisé cottage in process of building under my direction at Newlands Corner, near Guildford. There, any reasonable tests or experiments that he may propose will be most willingly made.

But one condition attaches. If he is honestly convinced of error, he shall proclaim his conversion to pisé (with such reservations as he may think fit to make) as loudly and publicly as he has proclaimed his present unbelief. I will not yet categorically reply to his accusations or implications nor deal with his criticisms constructively. I have strong hopes that my present antagonist's own persuasive pen may soon be brought to write in praise of pisé as eloquently as in damning it. The prophets of pisé would welcome such a Saul.

CLOUGH WILLIAMS-ELLIS.

Athenæum, Pall Mall.

HOUSING AND TOWN-PLANNING
IN SCOTLAND.

The Scottish Board of Health have issued a circular emphasising the duty placed upon local authorities under the Housing and Town Planning, etc. (Scotland), Act, 1919, to prepare and submit housing schemes under Part III. of the Housing of the Working Classes Act, 1890, for the approval of the Board. The new Act places a definite obligation on the local authority to consider the needs of their district with respect to the provision of houses, and to prepare and submit to the Board within three months after the passing of the Act (i.e., by November 19, 1919) and thereafter as often as occasion arises a scheme for the exercise of their powers under Part III. of the 1890 Act (Section 1).

The scheme so to be prepared and submitted must specify the following:

- The approximate number and nature of the houses which, in the opinion of the local authority, are required adequately to supply the needs of their district;
- The approximate number and the nature of the houses to be provided by the local authority, and wherever possible the average number of houses per acre;
- The approximate extent of land to be acquired and the localities in which land is to be acquired;
- The time within which the scheme or any part thereof is to be carried into effect.

The scheme may also contain such other provisions as may appear necessary or proper for the purpose of the scheme, and must, so far as possible, preserve existing erections of architectural, historic, or artistic interest, and shall have regard to the natural amenities of the locality. During the passage of the Scottish Housing Bill through Committee of the House of Commons, consideration was given to the question of a definition of the term "working classes," for whom local authorities were to be held responsible for providing houses. It was, however, not considered practicable to frame a definition, and, accordingly, no definition of that term appears in the Act. In interpreting the term, however, local authorities will appreciate that a definition cannot be arrived at by adopting solely an income or occupation standard, and it is intended that the term should be interpreted liberally. They are aware from the publications issued by the Board of the types of houses the Board would be prepared to approve, and these will be a guide to the local authority in coming to a determination as to the persons for whom they must provide houses.

There are enclosed copies of the form upon which the local authority should submit for the approval of the Board their scheme under Section I. of the Act. It is not intended that the scheme should be a detailed one with plans and estimates. It will in effect be an outline or programme of the local authority's proposals specified under various heads, and deals only with the approximate number and nature of the houses. In arriving at their estimate, the local authority should have regard to the number of houses required by reason of (a) overcrowding and congestion; (b) proposed closure and demolition of uninhabitable houses; (c) increase of population; (d) new industries; and (e) any other causes. The local authority or their officials will no doubt have in their possession sufficient information to enable them to arrive at the approximate number of houses

required, but the local authority should consider whether, in regard to the number of houses necessary to remove existing overcrowding, additional and later information might not be obtained from other local organisations, such as the local Food Control Committee, whose records will show the number of families and persons occupying each dwelling-house.

Where any local authority consider that no scheme is necessary for their area, the Board desire that the local authority will at once inform them of their decision, and at the same time submit a statement in support of the opinion that no scheme is required. In this connection it may be pointed out that the powers of a local authority under Part III. of the 1890 Act, as amended by the new Act, under which they are bound to submit their scheme, include power not only to erect new houses, but also to acquire existing houses, and to alter, enlarge, repair, and improve them so as to make them fit for habitation as houses for the working classes (Section 11 of the new Act). This power will be specially useful in the case of local authorities who may consider that the needs of their district could best be met by the acquisition and repair of existing houses, but other local authorities will no doubt consider whether some measure of relief of the existing housing shortage in their areas might not be speedily secured by the exercise of this power while their scheme for the erection of new houses is being developed. The Board desire, however, to point out that they would not be disposed to approve of a scheme for the acquisition and repair of existing houses unless the houses can be acquired and can be brought up to a modern standard of accommodation and habitability at a reasonable cost.

Before the Board finally approve any scheme the local authority must furnish estimates of the cost of the scheme, and of the rents expected to be derived from the houses provided under the scheme (Section 1). These particulars will not, however, be required at the outset when the local authority first submit their scheme, and, accordingly, the submission of a scheme need not be delayed pending a decision on these points. In the event of a local authority failing to fulfil the duty placed on them to prepare and carry out a scheme, the Board are given full powers to prepare and carry out a scheme and to recover the whole cost from the local authority (Section 3).

The following are the time limits fixed under the Act and regulations in regard to the submission and carrying out of schemes under Section 1 of the Act:

Before November 19, 1919. Outline scheme to be submitted under Section 1 of the new Act.

Before August 19, 1920. Reasonable progress to have been made, to the satisfaction of the Board, with the carrying out of the scheme.

Before August 19, 1922, or such later date as the Board may allow. The scheme to have been carried into effect (i.e., by the completion of all the houses to be provided under the scheme).

Fuller details of the manner in which the above assistance is to be given will be found in regulations which, subject to the approval of the Treasury, the Board hope to issue on an early date. Meantime, the Board desire to point out that the local authority must not delay the preparation of their scheme pending the issue of these regulations.

MILITARY BRIDGES AND THEIR DEVELOPMENT.

At the Bournemouth meeting of the British Association Professor C. E. Inglis gave a descriptive account of the various types of portable bridges evolved to meet the requirements of war.

The first bridge, which came into existence in June, 1914, was the work of the Royal Engineer Unit of the Cambridge O.T.C. The main characteristics of the design survived almost unchanged during the process of evolution from the original light type down to the recent substantial structures capable of carrying the heaviest military load—a forty-ton tank. The light bridge consists of a number of four-sided pyramids. Their bases joined together form the roadway, and a series of struts coupling together the apices of successive pyramids constitutes the top compression boom of the bridge. The main members are steel tubes attached at their ends to cast-steel junction boxes. The bays out of which the bridge is formed are all identical, each consisting of two horizontal tension tubes, one horizontal compression tube, one cross-beam or transom, one pyramid, and one gang-board. The four legs of the pyramid are permanently hinged to the top junction box, and they fold together, forming a single unit convenient for transport. The square base to which the lower ends of the pyramid legs are attached is braced by diagonal rods, which can be strained tight by means of turn-buckles. These diagonal bracing rods are permanently hinged to the transom, and form an integral part of that unit. The roadway in its earliest and simplest form consisted of a central line of gangboards, with their ends resting freely on the transoms and of just sufficient width to allow the passage of infantry marching in single file. Later a more commodious decking was provided which enabled horses to be led across. The base of the pyramid is a square of 8-ft. side, and the vertical height of the compression tube above the tension tubes is also 8 ft. The strength of the bridge is calculated to carry infantry in single file crowded closely together over a clear space of 96 ft. Owing to the stresses in the tube being strictly axial the rigidity is remarkable for so light a structure. The maximum deflection for a span of 96 ft. fully loaded does not exceed 2 in., and the triangular section of the guides renders it almost equally stiff in a lateral direction. The weight of a bay, including the footway, is about 570 lb., and the weight of a 96-ft. span about 2.75 tons. The bridge can be used inverted, and then becomes a deck bridge suitable for light-wheeled traffic. When so used it is supported on substantial projecting horns, which are bolted to the two end transoms. In trials the bridge was ready for traffic eleven minutes after the parts had been unloaded and laid out. This rapidity of construction is due in part to the simple but efficient jointing device and to the method of launching over the gap. In an enlarged form of this type of bridge the bays were 12 ft. wide and 12 ft. long and the pyramids 12 ft. high. This bridge could carry field guns and general service wagons crowded as closely as possible on a 96-ft. clear span, the safe distributed load being twenty-four tons. With the exception of the decking, which consisted of lines of gang-boards flanked by rolled steel joists, this bridge was identical with the original type. A bridge for motor

lorries and heavy guns was then designed. This had a central roadway, 10 ft. between kerbs, supported on substantial transoms, beams hung from the centres of the transoms of the two parallel bridges, and wheeled traffic passing along the central roadway.

The most difficult problem in the design was the determination of a thoroughly satisfactory method of connecting the tube ends permanently into the tube. The ideal aimed at was to obtain a joint that would break the tube rather than let go. In the light bridge the connection was made by rolling the tube ends into shallow corrugated grooves turned in the cylindrical portion of the tube ends. For thicker tubes it was found that forcing the tube well down into the grooves its walls became reduced in thickness and that the strength of the joint suffered. Oxy-acetylene welding was tried but had to be abandoned owing to the uncertainty of the human element in the work, and recourse was had to a method in which the tube end is screwed into the tube thickened at the extremities to compensate for the loss of section due to cutting of the inner and outer threads. This type of connection was every satisfaction. The new rectangular bridge was made stronger than the original of the moment dictated, and was designed to carry a dead load of eighty-four tons distributed over an 84-ft. span. Under test load of 100 tons the central deflection was 1 1/2 in., with no permanent set. Under the working load the maximum tube stress was limited to seven and a half tons per square inch, about half the elastic limit, and the compression tubes were not loaded up to more than one-third of their theoretical crushing load. The weight of the bridge was twenty-five and a half tons, compared favourably with that of any other type of military bridge having the same carrying power. Even under service conditions the bridge could be completed and ready for traffic in the course of a single night. The last phase in the evolution of these bridges was the tank bridge. The 12-ft. rectangular type, though strong enough to carry tubes to bear a forty-ton tank over a 84-ft. gap, was deficient in strength in the transoms and decking, and was insufficient in width to accommodate the largest tanks, with their widely projecting sponsons. The condition called for a design 40 per cent. heavier than the original type. The bays are 15 ft. by 15 ft. The horizontal tubes are identical and interchangeable with the diagonal tubes. The tubes have an internal diameter of 6 in. with a thickness of 3/8 in., and each is of the rectangular type. The bays are 15 ft. by 15 ft. The narrow track of the tanks concentrates the load to such an extent that nothing less than an 18-in. by 7-in. steel joist will suffice. The decking is supported on four 12-in. by 6-in. steel joists, and the deck planks are 10 in. by 5 in. pitch. The bridge was primarily designed to carry a forty-ton tank over a clear gap of 100 ft. By the use of a special form of big trolley of the caterpillar class a considerable length of bridge can be brought across country fully decked and ready for action. A tank pushing from behind supplies the motive power, and the bridge can be laid in position without a single being exposed, the tank being immediately able to use the bridge. The narrow type of bridge described was designed for crossing canals at lock entrances where the clear width does not exceed 20 ft.

Standard Specification for Roads and Sewers

(Concluded from No. 1290, page 397.)

materials on Site of Works.—The stone, clay, gravel, and sand, and materials and things excavated from works, or existing on the site are to remain the property of the contractor, and are to be at the disposal of the contractor so far only as use can be made of them for the purposes of the contract, subject to the approval of the engineer or surveyor.

Articles of Value Found in Excavations.—Fossils, coins, or other articles of value whatsoever, which may be discovered in carrying out the works, are to be immediately delivered into the custody of the engineer or surveyor by the person who discovers them.

Filling.—When a length of sewer is completed in the manner here prescribed, and approved, the trench is to be once filled in. The best of the material taken out of the trench is to be used for this purpose. Where the pipe is surrounded by concrete, the first layer of material free from large stones is to be carefully placed round the pipes, so as not to injure or displace them, well rammed and trodden in to a depth of 6 in. round the pipes. The remainder of the trench is then to be punned in layers of not less than 6 in. with an iron punner, and, where necessary, sufficient water is to be added to consolidate the filling. The care is to be taken to ensure the trench being perfectly solid, in order to relieve the pipes of the weight of the incumbent material, and the top of the trench is not to be removed until the whole part of the trench is thoroughly settled.

Roads and Footpaths to be Made Good.—When the sewers are laid in existing streets, the material forming the surface and foundations of the carriageway or footway is first to be removed, kept separately, and set aside in heaps for replacement when the trench is filled in. Any material is to be made up, and the surface of the carriageways and footways is to be the same as the execution of the works is to be made good to the same thickness, and with the same material, as the existing street. Additional material required for this purpose will be measured and paid for as directed.

Laying and Jointing Salt-glazed Pipes.—All salt-glazed ware pipes are to be of the quality previously specified in the drawings, and of the several dimensions indicated in the drawings. They are to be laid in the respective positions shown on the drawings, and at the respective depths indicated in the sections. The whole of the pipes are to be examined by such persons as may be appointed for the purpose, and all pipes that are found to be defective are to be removed from the works. The sewers are to be made and jointed tight, and no trench in which they have been laid, and the joints made, is to be filled in until the cement has set and the length of sewer has been tested, measured, and approved. All lengths of sewer are to be laid in perfectly straight lines between manholes. All necessary pipe bends, junctions, and reductions are to be provided and fixed in accordance with the drawings. All pipes are to be fitted together so as to obtain the best alignment before being lowered into the trenches. Each pipe is to be laid in the trench singly, with the flange and socket let into the shaping

and recesses formed therefor, so that the pipes may have an even bearing throughout their length. The joints are to be carefully made by first inserting and caulking a double ring of tarred gaskin to prevent the mortar from entering the pipe, and afterwards filling with cement mortar (two parts of sand to one part of cement), the joint being finished with a neat fillet bevelled off from the outer rim of the socket to the barrel of the inserted pipe. Care is to be taken that the inside of all pipes is left perfectly clean and free from obstructions of any kind.

56. Patent Pipes.—Where patent pipes are specified they are to be laid on the most approved method adopted by the firms supplying such pipes.

57. Concrete Around Pipes.—Where the nature of the ground requires, and in such positions as may be directed, salt-glazed ware pipe sewers are to be bedded on and haunched up with concrete, and where they are laid at a greater depth of cover than 12 ft., or a less depth of cover than 4 ft. 6 in. under carriageways, they are to be entirely surrounded with concrete. Where the pipes are bedded on concrete the concrete is to be not less than 6 in. in thickness underneath and at the sides of the pipes, and the haunching is to be carried up to the centre of the pipe and bevelled off to the surface of the pipe. Where the pipes are entirely surrounded with concrete, the thickness of the concrete is to be not less than 6 in. measured from the outside of the pipe. The concrete is to be lowered into the trench in buckets or suitable troughing, and is not to be dropped on to the pipes from a height. It is then to be carefully filled in round the pipes and allowed sufficient time to set before the filling in of the trench is commenced.

58. Laying and Jointing Cast Iron Pipes.—Where required, cast iron pipes as previously specified are to be carefully laid in the trenches and firmly bedded. Before being put in place or jointed up, they are to be carefully brushed out to remove soil or other matter which may have accumulated inside. All pipes are to be carefully driven home before the joint is made. The joint is to be made with strip lead, well driven home, so as to leave 2 in. depth of socket, properly run with molten lead and well caulked. Lead wool or ribbonite may be used for jointing in the following manner: Only one turn of lead wool or ribbonite is to be put in at one time, and each layer is to be well caulked all round.

59. Junctions and Connections.—Y junctions for gully and house connections, fitted where necessary with a proper stopper secured with weak lime mortar, are to be inserted on the sewers (soil and surface water) in the positions shown on the drawings and elsewhere as directed. All junctions and connections are to be laid complete up to the gullies or forecourts prior to the construction of the road and their positions marked.

60. Manholes.—The manholes are to be built in the positions shown on the plans, and in accordance with the detail drawings. They are to be of 9-in. brickwork set in cement mortar upon concrete bases 9 in. in thickness. Where the depth to invert level does not exceed 6 ft., the chamber is to be 3 ft. square inside in plan, and the brickwork is to be corbelled

over to receive the cast iron cover frame, or brought up vertically to receive a 6 in. stone slab upon which the cast iron cover frame is to be set. The frames are to be bedded in cement on the brickwork or stone slab, and the covers left flush with the surface of the ground or roadway, as the case may be. Where the depth to invert level exceeds 6 ft., the chamber is to be 4 ft. 6 in. by 3 ft. inside, partly arched over with a brick two-ring arch, and a shaft is to be carried up and corbelled over to receive the cast iron cover frame, which is to be bedded in cement. Salt-glazed half channel pipes of the required size and curves are to be laid and bedded in cement on the concrete base to the same line and fall as the sewer, unless otherwise indicated on the drawings. Both sides of the channel pipes are to be benched up in concrete, and rendered in cement $\frac{3}{4}$ in. in thickness, and formed to a slope of not less than 1 in 12 to the channel. The ends of all pipes are to be properly built-in and neatly finished off with cement mortar. Where the diameter of the pipe is 9 in. or more, a $4\frac{1}{2}$ -in. ring arch is to be turned over the end. Where the depth of the invert exceeds 3 ft. below the surface of the ground, galvanised wrought iron step irons of approved pattern are to be built in the brickwork every four courses, with such additional hand irons as may be necessary for safety. Alternatively, manholes may be constructed of pre-cast concrete made in accordance with the detail drawings, and bedded on concrete 6 in. thick. The joints are to be made and neatly pointed with cement mortar. The manhole cover frames are to be bedded on a concrete bed ring to prevent the weight of cover bearing on the shaft. Galvanised wrought iron step irons are to be fixed into the tubbing during the process of manufacture.

61. Road Gullies.—Road gullies as previously described are to be fixed in the positions shown on the plan. They are to be set upon a concrete foundation 6 in. thick and surrounded with concrete 6 in. thick. Cast iron frames and grids, and, where necessary, overflow plates, of approved patterns, are to be set on concrete or brickwork above the gully, so that the grid finishes flush with the channel of the carriageway. Six-inch salt-glazed ware pipes connecting each gully to the sewer are to be laid and jointed in cement as previously specified.

62. Sewer Ventilators.—Sewer ventilators are to be provided at the heads of all sewers and elsewhere as directed. They are to be connected to manholes where possible, the connections consisting of salt-glazed ware pipes, not less than 6 in. in diameter, jointed with cement mortar and surrounded by concrete 6 in. thick. Where it is impracticable to connect to a manhole, a lamphole is to be constructed of salt-glazed ware pipes of the same diameter as the sewer, but not exceeding 12 in., rising vertically from a square junction off the sewer. The junction pipe is to be bedded on concrete 12 in. thick throughout its length, and the pipes forming the lamphole shaft are to be surrounded with concrete 9 in. thick, and finished at the top with three-course brickwork corbelled out to receive a cast-iron cover and frame of approved pattern having a clear opening of not less than 11 in.

The ventilating shaft is to be of cast iron not less than 6 in. diameter if circular, not less than 6 in. \times 4 in. if rectangular. A rust chamber is to be provided at the foot of the shaft. Wherever possible the shaft is to be attached to a building, and carried to a safe height above adjacent chimney pots or windows. Where a rectangular pipe is used, it is to be blocked out from the wall so as to give a space of at least 1½ in. between the shaft and the wall. In cases where it is impracticable to fix the shaft to a building, an independent column is to be erected on an approved site. The column is to be not less than 25 ft. in height, with its base securely bedded in a block of concrete of the dimensions specified; a rust chamber is to be provided. In all cases a wire cage is to be fixed at the head of the ventilating shaft.

ESTIMATING ON BUILDING CONTRACTS.

Mr. Cyrus J. Parker, in presenting a paper on the above subject to the North-West Master Builders' Convention, Seattle, said that in estimating, a man had to make up a system of his own, and every man's method of contracting was peculiar to himself. It would be impossible to lay down such a system for another man, while he might take the system worked out and be very successful with it.

An architect frequently resorted to generalities in his specifications, such as "according to the satisfaction of the architect" and "in first-class workmanlike manner" and "materials the best quality." Those were a few, and there were many others, put in specifications to which consideration had to be given in estimating. How was a contractor to know the specific temperament of an architect when he wants it done to the satisfaction of the architect when he does not know what will satisfy the architect. So there should not be a general item of that kind in the specifications.

There was not one contractor in a hundred who read the clause, "materials of best quality" and realised the interpretation that an architect intended to place on it. These must all be considered in estimating. And then came the clause saying: "This is intended to be a complete job, supposed to include everything necessary even though it is not particularly mentioned." Half of the plumbing might be mentioned. But the part that was not mentioned must be put in if that kind of specification was dealt with. These items in compiling estimates were just as important as taking off the quantities. In fact they were often more important.

In the past many contractors resorted to asking sub-bids on their work. They acted on the sub-bids they got and guessed at the rest. Many of them took sub-bids and immediately after they had been awarded the contract the contractors forgot the sub-bidder who gave the bid and wasted time on it, and immediately started out to find more sub-bidders, after having taken the time of the original sub-bidder.

It seemed that it might be possible for contractors to get together and adopt some system of quantity surveying which could be used as a check against the quantities taken off. It was not practical for contractors to take the immense risks taken in the past. The contractor should prepare himself so that he would take the entire quantities from the plan and not be tied up to a sub-contractor.

EXPERIMENTAL CONCRETE COTTAGES AT BRAINTREE.

Great interest was evinced yesterday week by a large gathering of architects, engineers, and representatives of housing committees, who visited the housing scheme of the Baintree Co-operative Homes, Ltd. (a public utility society under the new Act) on the invitation of the Unit Construction Co., Ltd., the contractors for the work.

Those who advocate the employment of concrete construction as a specific for the national malady of house shortage, and others whose cautious conservatism bids them approach the question with circumspection were equally able to examine critically several cottages—two of which are finished and occupied, and others are being erected—where the contractors have adopted their Unit method of concrete block construction, and study at first hand each successive stage of the operations, from the foundations to the flat roof.

Briefly, the principle which the contractors have applied is the subordination of all wall lengths, widths of door, window, and fireplace openings, to the dimensions of the concrete block used in the structure. By thus arranging that every such measurement is a multiple of the block length there is no need to cut the material.

The outer walls are hollow, and consist of two equal thicknesses of blocks connected by means of metal wall ties, and separated by an uninterrupted vertical cavity two and a half inches in width, the overall dimension being eleven inches. Partition walls are one block thick.

As regards the floors and roofs, these are of concrete reinforced with expanded metal, and have their bearing on the inner thickness only of the outer walls. The cottages are fitted throughout with Crittall steel casements, staircases and door frames, while the floors are covered with a jointless material rounded at the junction with the walls and turned up to form a small skirting.

One hundred houses are projected, varying in size from those with living-room, scullery, and bath-room combined, and three bed-rooms, to the largest type, which contain living-room, parlour, kitchen, hall, four bedrooms and bath-room.

In appearance the buildings hardly conform to the accepted ideal of picturesqueness inherent in us all, and demanded by the public, and when the scheme is completed it will probably be found that as a whole the effect will be somewhat monotonous. Nevertheless, this attempt to solve the great problem of providing vast numbers of habitable dwellings without delay is one which will be watched with the greatest interest, and the experience derived from the experiment will doubtless provide valuable data.

THE TESTING OF BUILDING MATERIALS.

The Bureau of Standards is conducting mechanically controlled weathering tests at Washington on samples of various building stones and has already obtained disintegration of some specimens in less than 100 successive freezings and thawings, while others show practically no signs of disintegration after 300 such exposures. The cracking of stucco surfaces is largely due to the volume changes in the mortar which occur during the time of its setting. In order to determine, if possible, methods by which this injurious cracking may be eliminated, the Bureau

is carrying out an investigation of the nature of shrinkage occurring in mixes of lime and cement mortars. It has been found that a high humidity may, to a considerable extent, off-set contraction and will produce less shrinkage than otherwise have taken place, even though high humidity has lasted only for a short time; moreover, if expansion is produced by retention of water at the surface, the expansion will perhaps permanently set a similar contraction. The results obtained at the present time are so far masked by the high atmospheric humidity and cannot yet be considered as conclusive. The Bureau's investigation of the unsoundness of lime plasters has thus far resulted in two definite conclusions: the plaster sand should contain not more than 1 per cent. of sodium chloride, 2 per cent. of magnesium chloride, and 10 per cent. of red clay; and, second, specimens of twelve different plastering sands, as many different cities indicate that the quality of sand is frequently unsuitable for the so-called "popping" plaster. Eight of these twelve sands were found to be unsound plasters, and there is every probability that this was not due to the lime.

COTTAGE DESIGN AND CONSTRUCTION.

The Ministry of Health have issued the following communication with regard to the designing and building of cottages in rural areas houses of one storey and economically designed, and the walls to be of lighter construction than for two storey cottages. It is desirable for architects when preparing their designs to adapt them that alternative tenders may be obtained for walls constructed in a more economical way than in 11-in. cavity brick walls for the bedroom floors otherwise than with wood flooring on wood joists. In many localities materials suitable for cottages are available at or near a site, and the various simple machines by which concrete blocks can be made on the site for use in works and used for building instead of bricks. Many simple forms of construction are now being offered, and a number of these approved by the Ministry. It is essential, however, of all approved designs that there should be a continuous cavity between the outer and inner leaves of the wall, and that a proper wall tie should be provided, binding the two leaves together to receive the roof-plates at the head of the wall. On the first floor the roof-plates are not required, and if there is wood floor the joists can bear directly on the inner leaf of the wall.

The bedroom floors can be formed with 3-in. thick fine concrete, on expanded metal reinforcement, with pre-cast reinforced concrete beams. These can be calculated for a safe load of 50 lbs. per sq. ft. plus the weight of the floor, using a factor of safety of one-fourth of the breaking load. In many cottages now being built these bedroom concrete floors are finished with a steel float, form the finished floor, and although in the first instance some prejudice has existed against them they are afterwards preferred on account of cleanliness. The material is a non-conductor, slow to absorb and slow to give up heat, and, being in contact with the warm air of the upper parts of the room below, it gradually acquires and retains a temperature which does not give a cold or bare feet. In any case, a few mats at the bedside and utensils are all that are required.

WEEKLY HOUSING RETURN.

return of housing progress issued by the Ministry of Health states:

Number of new schemes submitted to the Ministry during the week ended October 20 was 180, bringing the total of schemes submitted by local authorities and public utility societies to approximately 46,000. The total number of schemes approved is 1,643, comprising about 2,000 houses. The number of house plans submitted is 587, representing 35,153 houses. House plans representing 21,509 houses have been approved. In pursuance of the policy of converting suitable houses into houses for the working classes, the London County Council Board have now inspected 3,500 houses in London. Of this number 1,500 have been found to be suitable for conversion into houses for the working classes in view, and it may be expected that they will be readily available for conversion. Additional houses to the total of 950, which have been under the consideration of the Board, may, it is hoped, be made obtainable for this purpose of conversion. The Ministry of Health have appointed a Committee whose duty it will be to consider the principles which should be followed in the clearance of slum areas. The London County Council, which is a sub-committee of the London County Council on Housing will be assisted by the Slums Areas Committee, and will be assisted by Mr. Neville Chamberlain, its chairman, Mrs. E. Barton, Mr. J. H. B. Brown, and Mr. E. J. Brown, to whom Mr. Addison has added Mr. C. W. Bower (M.P.), Dr. W. J. Howarth (medical officer of health for the City of London), Mr. R. C. Maxwell, and Mr. G. L. Pepler. The Ministry of Health have also appointed an Agricultural Rents Committee to consider the initial rents to be charged for houses built under the Government scheme in rural areas. The chairman of the Committee Mr. H. Hobhouse is the Minister of Agriculture, and the members are Mr. H. R. G. Jones, Mrs. A. D. Sanderson Furniss, and Mr. J. H. B. Brown, to whom are members of the Housing Committee. Dr. Addison has been added to the membership Mr. R. R. G. Jones, and Mr. E. F. C. Mosse, and a representative of Labour will be appointed. Both these Committees will report at an early date.

Plans of local authorities' schemes submitted during the week are as follows:

Building Sites.

Schemes Submitted.—The number submitted by fifty-seven local authorities was 180, bringing the total number of schemes submitted to approximately 42,210.

Schemes Approved.—Eighty-one schemes were approved, comprising an area of 813 acres. This brings the total of local authorities' schemes approved to 1,624, covering approximately 42,210 acres.

Lay-outs.

Schemes Submitted.—Thirty-nine schemes were submitted by twenty-three local authorities, bringing the total number of schemes submitted to 891.

Schemes Approved.—Twenty-seven schemes were approved, bringing the total number of schemes approved to 463.

Schemes Submitted.—Forty-five full schemes and two part schemes, representing 7 houses, were submitted by thirty local authorities. This brings the

total number of local authorities' schemes to 557, and the number of houses to 30,520.

Schemes Approved.—Twenty-six full schemes and two part schemes, promoted by twenty-three local authorities, were approved, bringing the total number of full schemes approved to 348 and the number of houses represented to 20,918.

LOCAL AUTHORITIES AND PRIVATE BUILDING.

The Ministry of Health announce: The Ministry have had under consideration every method which might be taken to secure the early provision of houses in places where, though the immediate need is acute, the houses in course of erection by the local authority are not likely to be immediately ready for occupation in sufficient numbers. Among the expedients which the Ministry think might usefully be adopted to meet the situation is one furnished by a clause in the Housing Act of 1919 to which sufficient public attention has not perhaps been directed.

It is the clause under which the local authority may buy or may lease houses which are suitable for the working-classes and which are either in course of erection or are about to be erected at the hands of a private builder. The clause is one which might give a useful opportunity to a small builder who, while he is unable to tender for a big scheme, might yet be in a position to erect three or four cottages. Such builders would do well to get into communication with their local authority and to submit proposals.

The contract between the builder and the local authority would require the approval of the Ministry of Health. It is not proposed that houses built in this way should be in any way inferior to the houses built by the local authority, but it is possible that more latitude might be allowed to the builder in such matters as material and fittings than is possible when the whole of the construction is governed by detailed specification. The builder will also have the advantage of obtaining his material from the Director of Building Material Supplies at the usual discount.

ENQUIRIES ANSWERED.

Oil Fuel for Domestic Cookery.

T. W. (Ipswich) writes: "The article entitled 'Oil Fuel for Domestic Cookery,' which appeared in your issue of the 10th inst., has greatly interested me, and I shall be obliged if you will give me the name of the oil stove referred to therein and shown in the photograph which illustrated the article."

—In reply to the above correspondent, and many others who have written to us in similar terms, we wish to state that the writer of the article informs us that the oil stove in question is the "New Perfection," concerning which the Anglo-American Oil Co. will doubtless furnish further particulars.

Concrete Cottages.

L. E. (London, S.W.) writes: "I am commissioned by a client to prepare plans for the construction of concrete cottages which shall show a return for his outlay. As much depends upon the make of the concrete-block machine employed on the works, I shall be obliged if you will kindly give me the names of a few makers whose plant will give satisfaction from the point of view of initial cost and output of material."

—For the names of makers, recourse should be had to our advertising pages.

GLASGOW COMPETITION RESULTS.

The awards have been issued in the competition for plans of houses and lay-outs of sites, prizes for which were provided by a prominent citizen. The assessors were Messrs. James Thomson, city engineer, Dundee; A. Horsburgh Campbell, director of housing, Edinburgh; and Thomas Nisbet, master of works and city engineer, Glasgow. The awards are as follows:

Lay-out of lands of Kennyhill, Riddrie, Blackhill, and Lethamhill, with plans, etc., of houses.—First premium, £400. No design of sufficient merit; second, £250, Alex. T. Scott, London; third, £150, F. Longstreth Thompson, A.M.Inst.C.E.; Reginald Dunn, M.T.P.I.; and S. Pointon Taylor, A.R.I.B.A., London; fourth, £100, C. Harold Norton, A.R.I.B.A., London.

Lay-out of lands at Copahill for three-storey tenements, with plans of houses.—First premium, £150, Cruickshank and Seward, Manchester; second, £100, no design of sufficient merit; third, £50, the assessors recommend this premium should be awarded to each of W. E. C. O. Venden, Rugby; and Malcolm Stark, London. Extra awards of £25 to each of Charles Mitchell, M.S.A., Edinburgh; and William Friskin, A.R.I.B.A., London.

Lay-out of lands of Mossbank.—First premium, £150, F. Longstreth Thompson, A.M.Inst.C.E.; Reginald Dunn, M.T.P.I.; S. Pointon Taylor, A.R.I.B.A., The Osiers, Chiswick Mall, London; second, £100, James Coutts, Aberdeen; third, £50, the assessors recommend this premium should be awarded to each of Harold Slicer, London; and William Friskin, A.R.I.B.A., London.

Lay-out of land between Shettleston and Tolcross.—First premium, £200, F. Longstreth Thompson, A.M.Inst.C.E.; Reginald Dunn, M.T.P.I.; S. Pointon Taylor, A.R.I.B.A., London; second (£100) and third (£50), divided between Arthur J. Price and Sons, Lytham; and Harold Slicer, London.

Improving partly-developed area lying between Springburn Road and Springburn Park (Lay-out design).—First premium, £200, John Boyd Brodie, M.I.C.E., Glasgow; second, £100, no design of sufficient merit; third, £50, W. A. Robertson, Glasgow.

Model with relative plan of semi-detached cottages of four or five apartments each.—First premium, £100, David Skinner, Glasgow; second, £50, W. E. Bannister, Glasgow; third, £25, Charles G. McGibbon, Glasgow.

Model with relative plan of two-storey block containing two houses of three or four apartments in each storey.—First premium, £100, David Lawrie, Govanhill, Glasgow; second, £50, James W. Reid, Paisley; third, £25, Donald J. Cameron, Glasgow.

Model with relative plan of a two-storey block containing four houses of three apartments in each storey.—First premium, £100, Donald J. Cameron, Glasgow; second, £50, no award made; third, £25, no competitor; special award of £25 for models of this and Competition No. 7 to W. E. Bannister, Newlands, Glasgow.

Plan of house with fittings and equipment.—First premium, £100, Malcolm Stark, Upper Norwood, London; second (£50) and third (£25) divided among Lieut. A. Douglas-Smith (Australian Flying Corps), Sydney; Donald J. Cameron, Glasgow; and W. A. Robertson, Glasgow.

Town Development and Housing

Housing at Longbenton.

Longbenton Urban Council, in order to relieve the overcrowding which exists in the district, has decided to purchase ten Army huts, and to convert same into thirty temporary dwelling-houses.

Chesterfield Housing.

The Chesterfield Housing Association, Ltd., is to proceed with the building of twenty-eight houses in Chesterfield. The houses will be erected in pairs, and a scheme is being prepared whereby the prospective tenants may become the owners of their houses on easy terms.

Derby Housing.

The Derby Housing Company, Ltd., have settled their points of difference with the Provision of Houses Committee of the Town Council. As a result of this the company will probably proceed to erect 106 houses on behalf of the Corporation at Chaddesden.

Architect for Newark Housing Scheme.

It was decided at a special meeting of the Newark Urban District Council to adopt a report presented by the Public Works Committee, which recommended that Mr. Barry Parker, of Letchworth, be responsible for the erection of the 100 houses of the Newark housing scheme.

Concrete Houses for Linthwaite (Yorks).

The Linthwaite Urban Council have decided to enter into a contract with the Winget Concrete Company for the building of fourteen houses at Cowlersley, with concrete blocks, as part of their housing scheme, at a cost of £785 per house. The scheme has been amended and approved by the Housing Commissioner.

Clay Lump Buildings for Enfield.

Clay lump buildings are suggested as a means to meet the housing difficulty in Enfield, where the Housing Committee are "on strike." The Committee have declined to take further steps towards the provision of a housing scheme, following a communication from the London Housing Board disapproving of a local site.

Newry Housing Scheme.

At a Newry (Ireland) Urban Council meeting a resolution was adopted instructing the Town Clerk to get into touch with the Secretary of the National Development Company of Ireland with a view to negotiating a loan of £120,000 for the carrying out of a scheme of building about 200 workmen's houses.

Unwanted Chemical Factory.

At a special meeting of Romford Urban Council, called to consider the proposed erection of a chemical factory at Squirrel's Heath, it was resolved to adopt a town planning scheme for the area. This will give them the power of veto. Mr. R. Franklin, chairman of the Housing Committee, said the council had no desire to stifle industry, and the only question they had to consider was whether this was the proper place for such a factory. In his opinion it was not.

Relief of Traffic Congestion at Manchester.

The preliminary committee work is proceeding in the adjustment of the details of Manchester's £2,000,000 scheme for the relief of street traffic congestion. The scheme, when carried out, will involve the

demolition of property and the making of new thoroughfares. As the tramway system will benefit, the Improvements and Building Committee of the Manchester City Council contend that the Tramways Committee ought to bear a very considerable proportion of the cost. This point was the subject of a conference in the Town Hall between the committees concerned, but no decision was arrived at. Further negotiations on the matter will take place.

Leeds Housing Scheme.

One of the Leeds Corporation schemes has so far progressed that it is now believed that building operations will start at the beginning of October. This is the Hawkesworth Wood Estate scheme, plans for which were tentatively approved by the City Council a couple of months ago. The scullery type of house will be built for £650, and those with a parlour for £800.

Housing Scheme Appointment.

Belford Rural District Council has resolved that Mr. J. Newton Fatkin, of Newcastle, be appointed the architect to carry out the proposed housing scheme. A resolution was passed in favour of the State and public bodies taking over the responsibility for housing their own employees, cottages used as summer residences being placed at the disposal of workmen, and employers of industrial labour undertaking the housing of their own employees.

Proposed Land Purchases at Rugby.

At a meeting of the Rugby Urban District Council it was decided to purchase twenty acres of building land at £400 per acre, twelve acres at £275 per acre, and about 1,200 square yards at an inclusive sum of £3,360, subject to the approval of the Ministry of Health. It was also agreed to purchase about forty-three acres of land for allotment purposes at a total cost of £3,500.

Houses Before Theatres.

That priority should be given to housing schemes rather than to the building of places of amusement was the substance of a message which the Yorkshire and East Midlands Employment Council decided at Leeds to send to all local authorities. The Council urged that public authorities should prohibit the building of theatres while there was scarcity of labour and materials for new houses.

Welshpool Housing.

Welshpool Town Council, which only adopted its housing scheme for sixty dwellings on garden city lines on the casting vote of the Mayor, had another animated debate when an estimate of £4,800 for streets and sewers was presented. The proceedings of the Housing Committee were severely criticised, and it was again only carried on the casting vote of the Mayor that a loan should be raised and work proceeded with.

Nottingham Council Reject Garden City Schemes.

Nottingham City Council, at a specially convened meeting, considered a motion to rescind the resolutions to build houses on different estates, under the Government housing scheme. The houses, it had been estimated, would cost £1,000 each, and the Housing Committee's suggestion was that they should be let at £25 a year. Alderman Huntsman said there would be at the least a deficit of £50 per house, and

as the different schemes provided for the erection of 4,000 houses, it meant an annual deficit of £200,000 a year, equivalent to an extra rate of 3s. 4d. to 3s. the £. It was decided by twenty-one to nineteen not to proceed with the hill-lane scheme, and it was resolved to rescind the whole of the Housing Committee's scheme, and instruct them to prepare immediately a scheme for the erection of tenements or dwellings on sites in a more central position in the city, where roads are already made.

Panel of Architects for Middlesbrough Housing Scheme.

At a meeting of the Middlesbrough Housing Committee it was reported that the Ministry of Health had approved laying out of 2,500 houses at Adamson Grove, Whinny Bank. A discussion of local architects discussed with the committee a scheme for competitive designs, and suggested a panel of architects working with the borough engineer, instead of instituting a competition. A resolution was adopted to form a panel of architects at a cost not exceeding £100 per year for three years.

Inter-Allied Housing Congress.

The Inter-Allied Housing and Planning Congress, which was to have been held in London in November, has been postponed until May next. The object of the Congress is to bring together representatives of the Governments, municipalities, and town-planning associations of the Allied countries for the purpose of discussing the post-war housing problem of the various States. The delegates will be in possession of the legislative and financial proposals of the Governments, and will be invited to discuss a number of practical questions. These will include the possibility of obtaining in each country the acceptance of a housing programme sufficient in its scope to secure that within the limit of two decades every family will be housed under proper conditions of minimum accommodation for a working-class family, and the merits of cottage dwelling and block dwelling, the standards of building construction, and the best means of encouraging the development of new and more economical methods and the use of new materials.

Cost of Housing.

The London Housing Board calculates that £1,000 each is too much to pay for the first 103 houses under Ealing's multiple scheme. At its suggestion the four-room type of house has been eliminated, and the parlour type with three bedrooms substituted. These houses will cost each less to erect, and there will be a saving of £1,078 on each of four cottages. By carrying out other suggestions of the Housing Board's quantity surveyor, the local authority has been able to effect an additional saving of £90 on each house, the total saving on the 103 houses amounting to nearly £10,000. It is hoped to obtain the early sanction of the Ministry of Health to a loan to cover the architects' tenders, and to start work on the building at once. The Town Council has been impressed with the resolutions of prominent women's organisations against the percentage of parlours provided, and has agreed that a larger number shall be provided in this accommodation when the second part of the scheme, comprising 136 houses, is considered.

The Week's News from Far and Near

Building Activity at Dewsbury.
Dewsbury Corporation have approved a proposal for a large amount of building.

Essex Tuberculosis Sanatorium.
Essex County Council has decided to build a sanatorium for 100 patients on a site of 100 acres.

South Kirkby War Memorial.
South Kirkby parish meeting has decided to erect a cottage hospital as a war memorial.

Fulham Council and New Cinema.
Fulham Council are asking the London County Council to refuse to allow a cinema to be built on a site in the district.

Architectural Appointment.
H. Townshend Morgan, of 88, Strand, W.C., has been appointed architect for the Bradford-on-Avon scheme.

Memorial Hospital for Nelson.
Nelson's meeting at Nelson, Lancs., has decided to proceed with the erection of a hospital in memory of the local men who fell in the war. The cost will be £10,000, and the money is to be raised by public subscription.

Typewriter Factory for Leeds.
Leeds Corporation have proposed to build a typewriter factory on Wakefield Road, Hunslet, Leeds, on a site of fourteen acres, and plans have been deposited with the Leeds Corporation and the Rothwell Urban Council, in whose district the site is situated.

Building Strike in the West.
Bricklayers, masons, carpenters, and joiners employed in constructing the new works for the National Oil Refineries, Ltd., at Skewen, near Neath, have struck for increased rates. An effort is being made to refer the dispute to arbitration.

Protest against Erection of Finchley Cinema.
Finchley District Council has received a petition for a protest against the erection of a cinema theatre at Church End, Finchley, it being urged that labour should be diverted to this purpose when the housing problem is so acute.

Lancashire Fusiliers' Memorial.
A war memorial the Lancashire Fusiliers propose to enlarge the regimental memorial fund, which was established in 1900 during the South African War for the benefit of the families of the killed and the disabled, and to erect a permanent and visible memorial at Bury, the headquarters of the regiment.

New Building Collapses.
A new building in erection at 100, Street, Bromley, collapsed, and the stonework, scaffolding, concrete, and brickwork crashed to the pavement in a mass of masonry. A passing girl cyclist was killed and bruised and shaken, and a soldier was injured about the head by falling masonry. No workmen were hurt.

Direct Labour at Halifax.
A meeting of the Halifax Corporation Committee it was reported that a scheme had been obtained from the Housing Commissioner at Leeds for the building of sixty-two houses at Pellon and

Holmfild by direct labour, under the supervision of the Halifax Borough Engineer (Mr. J. Lord). These houses are the first instalment of the 800 to 1,000 required. Their erection by direct labour will, it is estimated, cost not more than £800 per house. When tenders were received the cost worked out at £1,049 per house, which the committee regarded as excessive.

New Use for an Aerodrome.

The Huntingdon County Council is considering a proposal to purchase Wyton aerodrome from the Disposals Board. The aerodrome, which is four miles from Huntingdon, occupies a site of over 200 acres. It is equipped with many permanent buildings, as well as hutments, and it is suggested that the buildings might be used as a sanatorium and the land developed as a farm colony.

Lincoln Statue Unveiled.

Judge Alton B. Parker, Chancellor of the Sulgrave Institution of America, was present at the unveiling by the Lord Mayor of the statue of Abraham Lincoln, which has been presented to Manchester by Mr. and Mrs. Charles Phelps Taft, of Cincinnati, Ohio. The monument, which stands in the Platt Fields Park, is the work of the famous sculptor, George Grey Barnard.

Building Trade Wages at Nottingham.

Nottingham having been graded "A" under the Midland area scheme of wages in the building trade, the new rates now being paid in the district are as follows: Painters 1s. 8d. per hour, plasterers' labourers 1s. 6½d., builders' labourers and navvies 1s. 6d., plumbers' labourers 1s. 6d., and masons' fixers 1s. 9½d. The working week is forty-four hours (eight o'clock to five), to be reduced to 41½ in winter.

L.C.C. School of Building.

On Monday last evening classes commenced at the London County Council School of Building, Ferndale Road, Clapham, London, S.W.4. Professor Beresford Pite, M.A., F.R.I.B.A., is Director of Architecture, assisted by Mr. H. F. Murrell, A.R.I.B.A. Admission to the lectures on architectural history, held on Tuesday evenings, is free to the public.

Surveying Instruments.

The Controller to the Surplus Property Disposal Board states that a quantity of surveying instruments and apparatus, including theodolites, levels, etc., is now being notified for disposal. Lists giving particulars are being prepared, and will be brought up to date as required, but in the meantime information may be obtained and some of the instruments may be seen at Room 110, Caxton House, Tothill Street, S.W.

Labour Hall in London.

Considerable progress has been made in connection with the proposal to build a Labour Hall in the centre of London as a war memorial, in accordance with the resolution passed at last year's Trade Union Congress. The Labour trustees have the matter in hand, while a scheme has also been prepared by the Co-operative Union, Ltd., whose proposal is for the erection of a big hotel and restaurant, with general stores and Labour offices, the building to be placed in the West-End shopping area. There has been a drawing together of the two movements, and a joint scheme may

before long be launched. Already tentative plans have been prepared, and many suggestions have been made. The idea is to erect an imposing building, to include a public hall, with a seating capacity for 2,500 people, a smaller hall, a residential hotel, club and club rooms, and co-operative stores and offices.

Leaning-Chimney Straightened.

A Yorkshire firm of steeplejacks have straightened a stone chimney 100 ft. high, which was leaning 2 ft. 9 in. A hole was made in the opposite side, and fourteen jacks, capable of bearing 300 tons, were inserted. The stones above the jacks were then removed, and the stack began gradually to right itself. The movement occupied five days. The stack has now been reported plumb, and the aperture will be built up.

Protests Against New Government Offices.

Protests from local organisations and public bodies are reaching the Office of Works against the retention of the temporary pensions offices on the open space facing the Royal Hospital, Chelsea, known as Burton Court. Burton Court was formerly a delightful pleasure ground used by the officers of the Brigade of Guards as a cricket and sports grounds, to which the public had right of access.

Sale of Old Marylebone Town Hall.

The old Town Hall of St. Marylebone has been sold to Messrs. Debenhams, Ltd., for £27,000. The premises are in Marylebone Lane, a few yards from Oxford Street, and it is supposed that there was originally a church on or near the site, as many skeletons were dug up in 1724. Pepys speaks of going to "Marrowbone . . . a pretty place it is," in 1668, and the "Daily Journal" in 1728 announced that many people "had arrived in London from their country houses in Marylebone."

Belgian Gratitude to a British Architect.

The Council of the Central Society of Architecture of Belgium have just conferred the rank of honorary member on Mr. Ernest Newton, R.A., who was President of the Royal Institute of British Architects during the first three years of the war. The offer of this distinction was accompanied by an expression of the warmest gratitude for the unwearied help and sympathy which he extended to exiled Belgian architects during the cruel years of the German occupation.

Cambridge Hospital to be Converted into Homes.

The First Eastern Military Hospital at Cambridge is to be utilised to meet the housing shortage in the district. Authority for its use as a temporary expedient has been obtained by the Town Council, and after modifications have been made about 150 dwellings can be obtained at once. Provision is to be made for central cooking, baths, etc., and there is scope for further development. The hospital is situated on the King's and Clare Cricket Ground at the back of the colleges. About 500 houses are needed to meet the present requirements, and many of the applicants are newly-married ex-service men.

Military Huts for Newcastle-on-Tyne.

Newcastle Corporation Sanitary Committee recommends the City Council to purchase, for £240, two military huts at Pelaw, for providing extra accommodation for nurses at Walker Gate Hospital.

It is possible to adapt the huts so as to make eleven cubicles, each capable of accommodating two beds. A tender has been obtained for the cost of removal, re-erection, and builder's work, including the provision of sanitary fittings, heating apparatus and other incidental work, amounting to £2,920. On the basis of forty-four beds, the total cost involved represents about £71 16s. per bed, exclusive of furnishing.

Memorial to London Troops.

The City Corporation of London, on Thursday, approved a scheme for the erection of a memorial to London troops who fell in the war. Designed by Sir Aston Webb, the memorial will be placed in front of the Royal Exchange. It will be in the form of a square panelled pillar, surmounted by a lion supporting shields bearing the City and County arms. Below will be bronze panels crowned with wreaths bearing the names of the regiments and the principal battles. The pillar will be flanked on either side by bronze statues on pedestals of men of the London regiments, in full marching order. The memorial will be in Portland stone, with a granite base.

New American State Capitol.

At the request of Mr. Thomas R. Kimball, President of the American Institute of Architects, and professional adviser to the Nebraska State Capitol Commission, the President of the Nebraska Chapter of the American Institute of Architects, Mr. Alan McDonald, has called a special meeting of the Chapter to discuss the competition to be held for the selection of an architect for the new State capitol, authorised by the last legislature. All architects in the State, whether members of the Institute or not, are invited. The Omaha architects will also discuss the proposed ordinance limiting the height of buildings in the city.

National Health Insurance.

Architects and surveyors are reminded that under the new Insurance Act of 1919 they are required to see that all employees whose rate of remuneration does not exceed £250 per annum are insured unless they hold certificates of exemption. The remuneration limit previous to the passing of this Act was £160 per annum. Contributions are payable by the employer at the rate of threepence per week, and, in the case of employees, fourpence for men and threepence for women. The Architects' and Surveyors' Approved Society at 34, Bedford Square was formed for the benefit of members of the architectural and surveying professions, and those coming within the scope of the new provisions are advised to communicate with the secretary, Mr. F. R. Yerbury.

The Prohibition of Cinema Building.

Sir Kingsley Wood, M.P., Parliamentary Private Secretary to the Minister of Health, has stated in an interview that the Ministry has no power to prohibit the erection of cinemas, or other luxury building. "Many instances have come before the Ministry," he continued, "of the use of considerable building materials and the utilisation of a large body of labour in connection with the erection of picture houses. Dr. Addison has already publicly announced that he will not hesitate to seek power from Parliament to safeguard the national housing schemes if, as a consequence of such building, they were prejudicially affected. He will, I believe, welcome any evidence that will strengthen his

hands in this connection. In my opinion, it is monstrous that, at such a time, houses should be actually demolished and tenants turned out for pure luxury building."

Demolition of a London Church.

The Church of St. Alphege, London Wall, which dates from the sixteenth century and stands on the site of a church built in 1013, is now being demolished. The old porch will be preserved as a chapel for private prayer and meditation, and some of the memorials will be erected there, notably one of Sir Rowland Heyward, Lord Mayor in 1570 and again in 1590, which contains 19 figures in marble of Sir Rowland, his two wives, and 16 children. From the proceeds of the sale of the site a new St. Alphege will be erected in a poorer district. The organ has been given to St. Peter's, Acton, and the pulpit and other articles to St. Mary, Aldermanbury, which is now the parish church of the district. The registers at St. Alphege, dating from 1527, will also be preserved.

Industrial Conferences.

The success of the three days' conference of employers and employees, recently held in Birmingham by the Industrial League, has encouraged them to extend their operations. Arrangements have been made to hold similar conferences in Glasgow, Newcastle, Manchester, Bristol, Portsmouth, and Sheffield, and negotiations are being conducted in other places. Subjects relating to labour and commerce in all its various forms will be considered. One subject to be dealt with was suggested by Mr. J. R. Clynes, M.P., in the discussion on his paper at Birmingham, on August 13. Mr. Clynes suggested that the relation of improved labour conditions in this country, and imported sweated goods, would be a subject on which the Industrial League could most usefully institute a conference. It is certain that an interesting discussion would take place on this matter, and it will be included in the agenda of one or more of the conferences.

TRADE AND CRAFT.

The Hopton-Wood Stone Firms, Ltd.

Mr. C. H. Salmon, Assoc. M. Inst. C.E., has been appointed general manager of the Hopton-Wood Stone Firms, Ltd., in succession to Mr. R. Storey, who retires under an arrangement by which his services will be retained in an advisory capacity.

Ironmongery Specialities.

Messrs. Cope and Timmins (London), 1011, Ltd., of 15 and 16, Alfred Place, London, W.C., have issued a catalogue, entitled "Architects' and Builders' Ironmongery Specialities," which deals with internal fittings and details. It supplies a fine selection of designs in grilles, door handles and so forth, brass and bronze rails, fanlight gearing, and mortice furniture. Messrs. Cope and Timmins also undertake to carry out architects' own designs. The keynote of the catalogue is simplicity, and it should win the appreciation of all who value refinement in those small details which give character to a home.

COMING EVENTS.

WEDNESDAY, OCTOBER 8, TO SATURDAY, NOVEMBER 1.

Housing and Health Exhibition at the Kelvin Hall of Industries, Kelvingrove, Glasgow, from October 8 to November 1.

COMPETITIONS OF

October 4.—"Daily Mail" Ideal Saving Homes.

The "Daily Mail" are offering of £250, £100, and £50 for the best designs for the labour-saving house, which one of the features of the forthcoming Ideal Home Exhibition at Olympia, February, 1920. Architects are to submit designs for houses for a professional family, designed primarily for the time and labour-saving. Designs are to be addressed to the Secretary, Ideal Saving Home Competition, 13, Strand, E.C.4, to be delivered by October 4, 1919.

October 15.—Leamington Spa War Memorial.

The War Memorial Committee are offering premiums of £100, £50, and £25 for designs for war memorial. Mr. Ashley, F.R.I.B.A., of 14, Grosvenor Square, W.C., will act as assessor. Further particulars from the Town Clerk.

October 20.—Oxford: Housing.

The Oxford City Council invite architects to submit designs for the layout of a congested area and the building of cottages thereon, and has appointed H. V. Lanchester, F.R.I.B.A., as assessor. All designs must be sent to the Town Clerk not later than October 20.

October 31.—Portsmouth: Housing Scheme.

Designs invited for lay-out of houses for the Urban District Council. Premiums £50, £30, and £15. Mr. C. F. W. Denning, F.R.I.B.A., and Mr. F. H. Smith have been appointed assessors. Further particulars from Mr. F. H. Smith, Surveyor, Council Office, Portsmouth.

December 1.—Limavady War Memorial.

The Limavady War Memorial Committee invite qualified architects to submit designs and plans, with particular reference to materials, for this memorial. First prize of £25, second prize of £15 for third prize of £10, and plans which are the two most successful for which they award premiums to become their property. The award of a premium is not to constitute an endorsement or undertaking that the architect will be employed to carry out the work. All plans and designs in competition are to be sent to the Secretary, Limavady War Memorial Committee, Town Hall, Limavady, co. Londonderry, on or before December 1, 1919. The publicity and proportion will be proportionate to the profusion of detail and excessive use of material. Building in concrete or ferro-concrete should be encouraged. The total cost of the building (including preparation of site) not to exceed £1,000.

Architectural Award.

In an architectural competition in connection with the Baildon Council's new housing and town planning scheme, the award was placed first by the assessor, Mr. S. Kitson, F.R.I.B.A., of Leeds.

Nottingham Housing Competition, Sherwood Site.

The authors of the design placed above competition were the following architects: Messrs. S. Pointon, A.R.I.B.A., Reginald Dunn, A.R.I.B.A., and Longstreth Thompson, A.R.I.B.A. In our issue No. 1289 the design was contributed to Mr. S. Pointon Taylor.

The Architects' Journal
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THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



HARMONIC INSTITUTE, REGENT STREET, LONDON.

(From the drawing, dated 1828, by Thomas H. Shepherd, engraved by W. Wallis.)



AN OLD WEATHER-BOARDED COTTAGE AT ASHTEAD, SURREY.

THE ARCHITECTS' JOURNAL

Architectural Editor: Professor A. E. RICHARDSON, F.R.I.B.A. Literary Editor: J. FINDLAY McRAE.
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27-29, TOTHILL STREET
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Wednesday, Oct. 8, 1919

Volume L. No. 1292

The Ethical Aspect of Conversion

THERE can be little doubt that the present time will prove to be a unique phase in the history of English architecture. It is an age of extremes, in which the medium-sized house—that typical production for which our architecture has become justly famous throughout the civilised world, insinuating itself into the designs of other countries, particularly those of America, where it has been so skilfully blended with their own vernacular to the infinite admiration of us all—finds absolutely no place. Contemporary work consists on the one hand of stupendous undertakings, for the most part in the form of enormous stores and business premises, for houses of merchandise and for large commercial trusts, and on the other, of vast numbers of cottages and small houses for the working classes. To this already curious combination must now be added another strange class of work—it is the extensive conversion of existing houses into smaller dwellings.

As the economic organisation of mankind grew ever more complex, so the necessity for centralisation became more insistent, and thus we find bankers foregathering in Lombard Street, and diamond merchants congregating in Hatton Garden, and the like. Coincident with these developments there arose a more emphatic division of men's lives between their hours of work and of leisure, the former tending to acquire a sterner complexion, from which it became necessary to seek some means of relaxation, and those who could afford to do so endeavoured to dwell at some distance from their working places. There grew up consequently, during periods of prosperity in the purlieus of the town, lovely houses for the wealthy, which, by reason of the city's ceaseless expansion, spread ever outwards in widening circles, until finally the revolutionary introduction of mechanical transport flung them at a further and safer distance. Thus it comes about that in Kensington and Hackney, in Islington and Pimlico, are to be found streets of noble houses which once sheltered the wealthy merchants and men of business of their day, but which stand to-day with signs of their former glory still about them, either empty or disconsolately sheltering a population in a manner for which, in their present form, they are pre-eminently unfitted.

To these houses must now be added others which have become vacant through the recent changes in our economic conditions; for the tendency, forced upon us by the difficulty of obtaining fuel in sufficient quantity, or of procuring adequate domestic assistance, by limitations of income, is to contrive households of the most modest dimensions. Thus there exists to-day in all large towns a number of houses, many of them of fine construction, which stand either vacant or unsuitably tenanted. It is to these that many are turning in their anxiety to satisfy the housing shortage, or in hopes of obtaining a fair return from invested capital.

It is a matter of doubt as to whether the spectacle of a noble house—still bearing by its very tone an indelible suggestion of former grandeur, performing indifferently a function vastly unlike that for which it was originally intended, and which it has so faithfully fulfilled in the past—is provocative of greater melancholy and regret than the sight of it slowly crumbling into decay, forgotten and uncared for, yet dignified and stately to the last.

An architect called upon to undertake the work of converting such a house, if he be susceptible to the beauties of his art and respectful to the works of its past professors, may well demur before commencing upon such a task, which, at the first glance, has all the signs of a work of flagrant desecration. A little thought, however, may suffice to prove to him that he may not only console but even justify himself in respect to his proposed task if he regards the proposition in certain aspects, having previously rid himself of all those objections whose origin is of a purely sentimental nature. In the first place he should realise that by adapting such houses to present requirements he will be performing an extremely useful function for his fellows, many of whom are so desperately in need of adequate shelter; furthermore, that eventually such buildings, owing precisely to this present shortage, are certain of being put to this less dignified usage. It were obviously better, therefore, that they be carefully and skilfully adapted to it by one possessing both the technical knowledge necessary to perform the work, and a respect and sympathy which will ensure every care being exercised to preserve intact their possibly very special architectural charm, than that they be allowed to fall a prey to the speculative builder, who, unappreciative of their beauty and disregardful of their history, will mutilate them in his eagerness to turn them into a commercial asset.

A consoling feature, however, is that this work may bring one undertaking it into close contact with many of the great masters of the Regency, for it so happens that it is many of the spacious and well-constructed houses of this period that are presenting themselves for this particular treatment. Thus, he may find himself lost in admiration as he measures a window, a doorway, a cornice, or a balustrade, using subsequently all his ingenuity and skill in order to achieve his object with the minimum of interference with these precious features. And the knowledge and insight which he so acquires may serve him in later years, exerting an unconscious influence over his own designs, so that in their turn they may exhibit some of the skilful balance, the scholarly restraint and the exquisite detail of which he will have had such splendid opportunities both for appreciation and assimilation.

Yet another relevant consideration resides in the fact that many houses of the kind which we have in mind are built in terraces, of which the whole block was conceived as one architectural composition. Thus, by carrying

out such a subsequent transformation, the interior is indeed being brought into closer harmony—insomuch that in its new form it will no longer be composed of so many discrete units—with the exterior. The idea of uniting several houses under one façade is of comparatively modern origin, the example in London having been set by the Adam brothers; the precedent itself owing probably its inception to Wood of Bath. The Adelphi was followed by Portland Place and Fitzroy Square. In the Regency the idea underwent enormously rapid development, notably by Nash and Burton in Regent Street and in the terraces around the park, and by Basevi, in Belgravia. At the same time terrace upon terrace of superb elegance were erected at Hove from the designs of Burton, and it is in particular some of these which are in the very process of undergoing this conversion. The stately isolation and independence of the houses in Adelaide Crescent and in Brunswick Terrace will, before long, be things of the past, for they are even now being prepared for their new life. It is

not, however, exclusively houses possessing this degree of elegance and repute which are awaiting conversion into dwellings of a less pretentious character. There exist whole streets of quaint and dismal edifices, disfigured by spurious and debased ornament and lacking all grace and charm, but, nevertheless, of such sound structure that prudence and economy are alike emphatic in their demand for preservation, although utter demolition would be the only ultimately desirable course. Hence any scruples arising with regard to houses of this description would be of precisely an opposite kind to that which we have already considered. For the architect might well hesitate before undertaking a task which would, without doubt, have the undesired, yet necessary, effect of prolonging their unsightly existence. An epitome of the situation is this: the work must be done, and it is the skilled architect who can do it, on the one hand with the greatest care and understanding and on the other in a manner which may be calculated to achieve every possible improvement. H. J. B.

Notes and Comments

The Great Strike Settled.

AS a memento of the railway strike, now happily settled, it may be useful to preserve the statement signed by the Prime Minister and thrown upon the screens of the picture theatres last Thursday night. It ran thus: "The Government is not fighting trade unionism. Trade unionism is a recognised factor in industrial life of the country. What the Government is fighting for is to prevent the extremists of any industrial body from attempting to gain their ends by attacking the life of the community and so bringing untold misery upon thousands of innocent people." On the whole, the strikers vindicated the claim for them that railway workers are a particularly respectable body of men. There have been, it is true, some few deplorable incidents; but in such conditions these are always inevitable, and in the present case they are fairly set off by such acts of chivalry as strikers giving up their own milk supply to the children, helping lady volunteers to handle heavy churns, and in other ways showing themselves to be of the right stuff. Their hearts are right, however wrong their heads may be.

Makeshift Schools in the War-wrecked Areas.

In the devastated regions of France, "the hard school of adversity" is more than a phrase. It is literal fact. A correspondent of the "Times" Educational Supplement, pleading for help for "reconstructed" schools, thus describes them: "Often there are rudely constructed shelters of boards nailed together, of salvaged bricks, of shrapnel-pierced corrugated roofing used double." These sheds, we are reminded, will be bitterly cold in winter. That they will be terribly hot in summer one need not fear, for surely the summer's sun will not shine on such ramshackle contrivances: by then they will have been superseded, let us hope, by decorous temples of learning. Some of our manufacturers of portable buildings, or of walling blocks and similar materials, would perform a very graceful act of charity by setting up neat and snug little schools for the sorry makeshifts that now disfigure the devastated regions and imperil the health of children whom the privations of war have rendered delicately sensitive to the influences that affect health either for better or for worse. Any firm caring to act on this hint should write to the Secrétaires Généraux, 27, Rue de la Sourdière, Paris.

Stained Glass Windows.

In a recently published history of the Worshipful Company of Glaziers and Painters on Glass there is a woful account of a cathedral window that, filled with leaded glass "not two decades since," began a few

years afterwards "shedding quarries indiscriminately and impartially within and without the sacred edifice while a series of undulations, interesting but dangerous appeared on the erstwhile plane surface." It would be instructive to know to what extent that window was exposed to strong winds and severe alternations of temperature, powerful sermons, and vibrant anthem. Without these essential particulars, no just conclusion can be formed as to the quality of the workmanship. Nor, in any case, would it be fair to infer from the frailty of a modern window the inferiority of the artificers of to-day to those of "the old times before us"; for the failures of the ancients do not always survive to bear witness that our forefathers were even whit as fallible as we are. It is mainly by their success that they are judged. Also the author of this double veracious, though certainly rather facetious, history of Glaziers would have added information to amuse us if he had told us exactly why this particular window had shed its quarries and sagged—whether there was any fault to be found with the composition of the "leads," whether the window had been duly stiffened with rods, whether the comes were fastened to the frame with copper wire, and whether or not chamois leather was used as a resilient seating for the glass, as it is with plate-glass windows. Now that painted glass windows are being put up more extensively than ever before, it is desirable that the best method of doing the work should be adopted in all instances in which the window is worth the pains, as, in a fair percentage of cases, it is admitted to be. By the way, the very beautiful and deservedly renowned Costessey windows are the subject of an excellent article in the October issue of the "Architectural Review."

A Fatuous Remedy.

Painted-glass windows, as every architect would cheerfully admit, should be done very well indeed, but not at all. They block out much light, and they ought not to do it with graceless designs and inharmonious colouring. Also they should prevent ventilation; but on this point art and hygiene are often brought to a vicious compromise; for it is distressing to see, for instance, the inoffensive head of some martyr, who may owe his presence there to having suffered beheadal, subjected incessantly to repetitions of the same cruel process, the light containing the head being switched outwards or inwards to give air, fresh or foul, its exit and its entrances. This provision may be sanitary, but it is not seemly. It destroys an illusion and spoils the picture. No architect would consent to such a vulgar expedient, which is only adopted, one may suppose

the good vicar, finding his congregation drowsy by the soporific force of sermons, calls in some glazier to provide the remedy.

The Isenheim Altar-piece.

It would not be politic to compel the Germans to "restore" the fine buildings they have destroyed, art being, generally speaking, an appalling indication of frightfulness, yet there is another sort of restitution that can be safely required of them—the return of the property they have stolen. Article 245 of the Peace Treaty provides for the return to the French of all works of art carried away from France during the war of 1870-71 and during the present war. These, which must amount to countless trainloads, include the Isenheim altar, which is considered the masterpiece of Matthias Grünewald, who painted it between 1493 and 1516 for the high altar of the choir of St. Anthony in Isenheim, Upper Alsace. It represents the figures of St. Anthony and St. Paul, with the hermits Antony and Paul, in a fantastic desert landscape, surrounded by singing angels. Taken by the Germans from the Colmar Museum during the late war, and placed in the Munich Picture Gallery whence it was removed last week. This would be a most humiliating experience to any people having a sense of honour: who, however, would not let them have the goods.

The Late Mr. A. R. Jemmett.

Not only in recording very briefly and with profound regret the death of Mr. Arthur Rutherford Jemmett, we promised to give a few details of his personal career. For those now offered we are indebted to his sister, Miss Margaret H. Jemmett, who told us that he was articled to Mr. J. J. Stevenson in 1885, and was elected to the R.A. Schools in 1885, and was awarded the R.A. Travelling Studentship (England) of £100 in 1888. In 1891 he was bracketed with another competitor for the Soane Medallion, which prize was not awarded, but a grant was made to Jemmett for travel on the Continent. He worked some time in the office of Mr. T. E. Colcutt. Mr. Jemmett was associated with Mr. John Murray in designing Rotherhithe Town Hall; and the Municipal Buildings at Tottenham, erected 1904-5, were done in partnership with Mr. Arnold Tayler; while, jointly with Mr. Combie, Mr. Jemmett was among the candidates to take part in the competition for the London County Hall. Mr. Jemmett was among the representatives of British architects who attended the International Congress of Architects in Vienna. He twice visited America, seeing most of the principal cities of the United States and the Northern States. Of his recent work on the Civic Survey it is as yet too early to speak; but saying that he threw himself into it with characteristic energy and thoroughness. Speaking to an architect who knew him well, we were told: "The reason Mr. Jemmett has not a long array of buildings to his credit is because he was always busy helping other men." Under other people's burdens seemed to be his pleasure!

Further Discoveries of Shale Oil.

Report last Thursday of the discovery of liquid shale oil at West Calder, Midlothian, where operations had been in progress for several years, renews the hope that these islands are much richer in oil than had been supposed, except by a few geologists, and that if the deposits are perseveringly worked we shall in the near future become much less dependent on our diminishing and somewhat capricious supplies. Scotland, consequently, on its peculiar geological formations, has been long held to be rich in oil-yielding oil that, until now, was thought not worth the expense of distilling. We shall hear more of it now that there is a prospect of oil being successfully used against coal for lighting, heating, and cooking, and, in the form of petrol, quite

outclassing it as a means of propelling vehicles. If, as some persons are sanguine enough to expect quite confidently, oil can be obtained in abundance within the kingdom, there can be but little doubt that means of extending its uses will be soon discovered. As the news of the fresh source of supply comes through Edinburgh, one is reminded that it was in that city, during a course of lectures by Lyon Playfair, that a casual remark by the professor induced one of his students to make experiments which resulted, in 1850, in "Young's patent paraffin oil," which immediately superseded colza oil and candles for domestic lighting, although paraffin candles—an immense improvement on the ancient tallow dips and rushlights—had become popular since their exhibition at Paris in 1839, five-and-twenty years after coal-gas lighting had come into general use in London. It is in the matter of power-production, however, that oil is most likely to prove useful; although quite obviously its adaptation for heating and cooking may yet see developments that will put a sudden end to the long and benevolently despotic reign of Old King Coal.

Housing and Sewering.

To resign from the vice-chairmanship of the L.C.C. Working Classes Housing Committee in protest against the housing policy of the Government is rather suggestive of the knight's move at chess, if not of Sydney Smith's similitude of "scratching the dome of St. Paul's to tickle the Dean and Chapter." Mr. Edwin Evans has taken this heroic if not conspicuously successful course; and it is reported of him that, presiding at a meeting of the Property Owners' Protection Association on the last day of last month, he expressed disapproval of the Government, the London County Council, and other authorities, "for buying new building estates, acquiring new roads, etc., while there were thousands of vacant sites on existing roads with sewerage already provided." Whether or not this is a fair indictment it would be impossible to decide in the absence of detailed evidence, there may be room for difference of opinion in many of the instances in which a president of a Property Owners' Protection Association may be held excused for being cocksure to the contrary. It does not follow that because a road is sewered the vacant plots alongside it are suitable for housing; and it is very certain that new sewers will be extensively required concomitantly with the thousands of new houses that are to be erected and drained. While the point is worth attention, and may be of sufficient importance to justify Mr. Evans's little flutter in the fashionable adventure of the strike, it is obviously easy to exaggerate the enormity of the Government and of local authorities in choosing sites that do not happen to be adjacent to ready-made sewers. May not the unsewered site possess countervailing advantages? For it is conceivable that the town-planning interest may quite outweigh the argument from comparative inexpensiveness. To save a few pounds is a paltry object compared with securing a really respectable site. Where town-planning principles and mere parsimony are in conflict there is no difficulty in deciding which side to support.

Special Notice to Subscribers

In consequence of the railway strike, this Journal, in common with all other periodical publications, has been faced with enormous difficulties of transit. These, however, were to a great extent overcome by energy and enterprise. Special means of conveyance were promptly organised, and we trust that in most instances the Journal has been delivered without very much delay. Any subscriber whom, nevertheless, it may have failed to reach should at once communicate with our publishers, who will send copies through the post to those subscribers who notify non-receipt. If your copy is not delivered through the usual agency, send our publishers a postcard, and they will send you the Journal by post.

Architectural Causerie

*"This is my own house;
I know by the spacing of it."*

MY task this week is a pleasurable one: it concerns recent discussion in the public press of the necessity for the immediate construction of timber-framed houses, a subject dear to my thoughts these twenty years past. It is indeed curious that public opinion should at this stage be focussed with peculiar congruity on a phase of building long neglected. Here is an especial appeal, not only to those needing houses, but to those whose avocation it is to design them. I have discussed the matter with my architect friends. The President of the Institute is in sympathy with the idea; Professor Adshead has long been eager to see a return to this straightforward and inexpensive form of construction, and has furnished me with valuable information; in addition, I have asked the opinion of one or two American architects now visiting this country, and they have waxed enthusiastic over the merits of "little framed roughs." What years of discussion and debate in architectural circles failed to achieve, mainly on account of the rigidity of the by-laws in rural and urban districts, the conditions of the moment are likely to bring about, and a most distinctive though somewhat neglected phase of insular building will, it is to be hoped, soon make its reappearance to the benefit of the countryside.

* * * *

The contents of my sketch-books have been ransacked for the matter I am about to scratch out at the end of my pen. The trouble is to control the mass of detail and arrange it in orderly sequence. Where do we find examples of framed and weather-boarded houses? The answer is wherever we choose to look for them. Personally I have chanced upon fine models in Wellclose Square, near Ratcliffe Highway. There are curious weather-boarded gablings and roomy bow fronts tucked away, or facing the lower reaches of the Thames. Essex is the true rooting place of the genus, specimens of which grace the Colchester Road from Romford to Colchester, and further than that as the tale hath it. I would that it were in my power to transport my readers to Paglesham, there to enjoy acquaintance with the "Punch Bowl," and its atten-



"PUNCH BOWL" INN, PAGLESHAM.



OLD WEATHER-BOARDED COTTAGES AT PAGLESHAM.

dant string of cottages leading up to the church should appreciate the delights of the "Plough Sail" with its white palisadoes, gambrel roofs, windows poke-bonneted, and warm tiling. It was as balm in Gideia to our eyes. Perhaps we should have gone through the Wakerings to Rochford, taking the giant Stambbridge Mill on our way, and then to South Fambridge. Although this description is like a verse from the "Comestic Doctor," and the list infers an acquaintance with Paterson's Road, it is not my intention to fill my paragraphs with facts.

* * * *

In spite of wars, strikes, rationing, and a thousand other inconveniences we Britons cling tenaciously to the old traditions of our forbears. We have passed through veritable reigns of terror, expressed in terms of brick and tiles, to say nothing of the use of other materials abominably depressing. Some of us still are who accept such trials without a murmur, but I am fortunate to escape the neurasthenia that often comes of the sensitive. It was only the other day that we were to cry out for a revolution in taste, favouring the old régime, and now we wish any fortune that soon be within the power of architects to show us what they can do. English architecture has gone rotten all over the world, but at home we have neglected the human building idioms of our fathers. When the Puritans landed in America they took with them the best part of England. All that they remembered of the life in the shires was needed for the housing of the people before them. The conditions were urgent; the abundance of timber in the new England showed the way in which the problem could be solved. The trees were felled, and roughly scantled; the selected individual houses were selected to form part of the early villages, and the four framed sides of the buildings were constructed, each flat upon the other, preparatory to being hoisted into position. At first the early Colonial houses imitated the heavy, dark, and panelled houses of the early seventeenth century, but the settlers soon mastered the principle of the construction with boarding, and sought for other material in lieu of thatch for the roofs. Alden had finished his new habitation,



ROW OF OLD WEATHER-BOARDED COTTAGES AT CAPEL, SURREY.

antial, of timber rough-hewn from the firs of the
," ready to receive Priscilla, traditional English
ng entered on its Colonial adventure.

* * * * *
roughout the seventeenth century in England the
ions of timber framing filled with brickwork, or
d and stuccoed to hide the uprights, continued to
llowed by builders in country places. Perhaps the
ness of the construction of the barns at Houghton
uest induced Inigo Jones to leave the old
ings standing when he added the gable and filled
terior with stalls and mangers for the horses of the
less Pembroke. In isolated parts of the country
elm boarding at this period was becoming of
al use for the sides of barns, but it is more than
that its adaptation to this purpose began in the
of the Tudors. Weather-boarding, according to
d chroniclers, signifies "the nailing up of Boards
st a wall. Sometimes 'tis used to signify the
ls themselves, when nail'd up. This work is
only done with Feather-edg'd Boards." The old
ication continues: "In plain Work they nail the
Edge of one Board, an Inch or an Inch and half
he thin edge of another: But if the Work is to
ittle extraordinary, they set an Ogee on the thick
of every Board." From the foregoing it will be
that a close analogy exists between weather-
ing and weather-tiling, especially in Kent and
x, where it is common to find the gable ends of
ouses tiled, and the barns and out-buildings,
were regarded as being of a temporary nature,
d with boarding tarred to the requisite deposit.

* * * * *
v for something more technical, that is to say a
ption of balloon framing, which is nothing more
s than the time-honoured braced framing under
er name. From the seventeenth century until the
ears of the eighteenth the rules of the old cars
s sanctioned only braced or full framing. That
say the sole pieces, uprights, plates and bonds
ll made of heavy timbers and braced by 4 in. by
or 4 in. by 6 in. pieces mortised and pinned to post
nd girts. Even common studding was mortised,
nsiderable licence was allowed in the selection of
aterial, and many pieces shaped by Nature were
d to be used. Buildings framed in this way
d that all the timbers had to be cut and mortised
ground. They were then fitted together and
in sections—a task requiring an immense amount
our. Mention must be made of the brick founda-
n which the sole pieces were placed, for some care
ken to protect the work from damp. In course of
e carpenters gathered experience, and proceeded
nomise in the use of material. There are the
nt ornamental cottages at Apsley Guise, and
on the Woburn Road, at Amptill, to show how
a framing developed, but for these examples brick
g took the place of weatherboarding for the out-
oak. The advantage of balloon framing, in addi-
its lightness, was its comparative cheapness and
erection. The sills were formed of pieces 4 in.
n. halved at the angles, the corner posts being
6 in., or 4 in. by 4 in. There were ribbon pieces
e the ends of the first-floor joists, and the braces
he corner posts to the sole pieces were halved and
d to the uprights, care being taken to use double
and to break joint wherever practicable; also it
e borne in mind that the ends of the floor joists
placed against the upright studs and spiked to

* * * * *
n balloon framing we come to combination fram-
eaning a more judicious use of corner and angle
the introduction of raised and dropped girts,
not more than thirty inches apart, the use of

ledger pieces and subsidiary braces, and a more strict
observance of the laws of halving, notching, mortising,
tenoning, and spiking, all wide openings being
especially reinforced by means of solid girts, the studs
over being trussed. It has often occurred to architec-
tural designers that timber-framed buildings require
more time to design than those of brick or stone. This
to a certain extent is true, for it is necessary to draw
elevations of all walls as well as of all partitions. In the
days of my early training such procedure was part of the
office routine. A useful hint can be given here. Pro-
ceed with the plans, elevations, and sections of the
house in the usual way; then indicate the framings in
line on the eighth scale elevations, so that the skeleton
stands out of the flesh, so to speak. Quarter scale or
half-inch scale elevations of all the walls follow, and
when these are ready indicate the timbers in position.
for it is unwise to rely solely on the specification, and
the builder is saved much bother if he can refer to the
architect's lineal instructions. Another method is to
make a separate cloth tracing over the large scale
elevation, showing the construction.

* * * * *
The best type of roof for the framed house is without
question the Gambrel or Cant type, sometimes referred
to as the Mansard, which it follows in line. There are
excellent examples of this in England, particularly in
Essex and Hertfordshire. The old Mill House near
Shefford, in Bedfordshire, is an interesting example,
but a study of the subject is incomplete without refer-
ence to some of the Colonial models, such as the house
of Governor Brooks, at Midford, Mass., which was
built in the year 1764. Roofs of pitch of 47 degrees
look well, and when slates are used the ordinary pitch of
30 degrees is quite suitable. Boarding three-quarters of
an inch thick is found to be very effective for sheathing.
The thick or lower edge of one board being nailed an
inch or an inch and a half over the thin or upper edge of
another board to form a lap. Very good work implies
the rebating of the back edge of every board. Clap-
boarding, or weather-boarding with the feather edge,
lapping one over the other, and presenting a succession
of horizontal lines 4 in. apart, forms the covering of
some of the framed churches in Newfoundland.
Although it must be admitted that white paint looks very
effective, there is no reason against the boarding being
creosoted or treated with some patent preservative.
Sometimes the boards are made of the same thickness
throughout, and are fixed horizontally to the uprights;
the top front edge of each board is rebated to a size of
one and a half inches, and the bottom back edge is
rebated half an inch.

* * * * *
I have finished my synopsis of what a specification for
between the uprights with coke-breeze blocks, to stan-
of a few generalities. Architecturally considered, there
is everything to be said for a timber-built house of light
scantlings. It should be possible to fill the spaces
between the uprights with coke-breeze blocks, to stan-
dardise the sizes of cottages, and to hold stocks of ready-
made walls, roofs, partitions, and windows. No mean
collection of wooden huts would result; there would be
plenty of scope for the ingenuity of the designer, and
ample play for the skill of the craftsman. We should
see a return to the vogue of the wooden eaves, possibly
the wooden gutter would be resuscitated; the projecting
door parts, the graceful console finished with fine guttæ;
the outside shutter and possibly the elegant loggia would
follow. It is conceivable that the near future will
witness many excursions on the part of architects and
their pupils to the outer suburbs of London. We may
encounter our friends at Hadleigh, in Essex, studying
the design of Victoria House, or else walking between
Enfield and Cheshunt, Mill Hill, St. Albans, and Ware,
not forgetting the charming example of Romney's studio
at Hampstead in their quest for first-hand information.

AERO.

The Development of Frame Construction

By PERCY J. WALDRAM, F.S.I.

ONE of the most unfortunate results of the Italian renaissance in this country was the extinction of the traditional English method of building just at the period of its most pleasing development. The typical XVth century timber frame house was a natural evolution from its surroundings. To this day it harmonises perfectly with them; whilst any ordinary XIXth century house, the artificial copy of a system of building developed with different materials and for a different climate, appears by comparison tawdry and incongruous. Structurally, also, the frame house was a natural evolution, with a frank and obvious reason in every member. But in the alien system which supplanted it, any honestly utilitarian members were considered to be wanting in refinement and were carefully altered to resemble something different: something ornamental if possible, but above all something classical or Italian.

Building became a fashionable pastime. Every person of culture aspired to an opinion on architecture. Rules and formulæ multiplied exceedingly, and structural commonsense disappeared in favour of structural conventions, based upon the dicta of aristocratic amateurs. Most of these conventions remain in full force to this day; and in so far as our system of building is subject to them, the traditional system is not only more natural and therefore more beautiful, it is also more scientific and therefore more economical. In the more expensive types of modern dwelling house where the cost justifies the employment of a trained architect, we are rapidly reverting to honest design, structurally as well as æsthetically. But the typical pre-war small dwelling is still a ghastly orgy of artificiality, half pretending to be marble in a country where marble is not, and wasting its materials and its opportunities in obedience to orthodox conventions, because its designer, equally with the compilers of the local by-laws, knew no other method of building.

With the increase of size of business and industrial buildings, economical considerations have forced us back to older and more correct methods. Thick internal walls and flat ceilings have given place to stanchions carrying large main girders, which in turn support subsidiary beams as in old timber construction. The external walls of the Early Victorian warehouse thick, flat, and monotonous, as determined by the cult which required the walls of every structure to resemble a stone ashlar, were at first timidly panelled, then boldly divided up into weight-carrying piers and weather-resisting filling, and finally in the typical reinforced concrete factory of to-day we have a structure which bears a striking and significant resemblance to the old timber frame house. The change is not a mere matter of appearance. It is a fundamental reversion to the more scientific methods of our forefathers, who appreciated that the members of a framed or box structure mutually support and strengthen one another, and that the strongest and most reliable foundation for soft soils is a pile.

For three hundred years we have been wasting labour and material endeavouring to distribute the load of roofs and floors through weak and inefficient brick walls on to continuous concrete in trenches. In large office and industrial buildings steel or reinforced concrete beams take the place of stout timber frames, and the main timber posts, firmly imbedded in the ground, become blocks of concrete running down to firm soil. But the structural principle is the same; the only difference being that the material of the framework is possibly more durable and fireproof. This is desirable in towns; but in view of the very large number of very old frame buildings still existing, it would scarcely seem that, at least in rural districts, large timbers are unreasonably liable to decay or fire

risk. When one finds a timber frame house, like the old Clergy House at Alfriston, a comfortable dwelling still after many centuries of Channel gales, one is to wonder what will be the condition in say A.D. 25 of a modern suburban brick house built strictly in accordance with our model by-laws.

Economic considerations having led to rational construction in large business and industrial houses, to be hoped that the abnormal economic conditions to the war may in some measure force the build of small dwelling houses to break away from the old conventions. War conditions are conducive to the abolition of tyrannies, mental as well as dynastic. When we consider the number of tyrannical habits, usages, and conventions which have cheerfully been abolished since 1914, surely it is not too much to hope that in the great and insistent problem of industrial housing shortage of bricks and timber may free us from the tyranny of the conventional brick terrace. Why should we not revert to timber framed cottages and small houses? In many parts of the country overgrown woodlands have been thinned with advantage for war needs; with the stoppage of demands for war material and hutting, substantial quantities of home-grown timber, standing and felled, should be available for the larger posts and beams.

It will be obvious that the weight of floors and roof of a two-storey house could easily be carried by 8 or 9 in. timber corner posts if the ends be charred, tarred, bedded firmly in the ground, and if necessary surrounded with concrete. Beams of similar scantling framed round at the ground, the first floor, and eaves level to carry the ends of the joists and rafters and securely braced at the junctions, would form a supporting structure quite as strong as the ordinary 9 in. brick wall, equally fireproof, and probably more durable. In the details of floors and roofs the designer would naturally follow the old lines, reducing the span and therefore the scantlings of the numerous small joists and rafters by the introduction of a few members of larger size, securing thereby the minimum expenditure of timber.

There remains the problem of a weather-proof walling which will be as good a non-conductor of

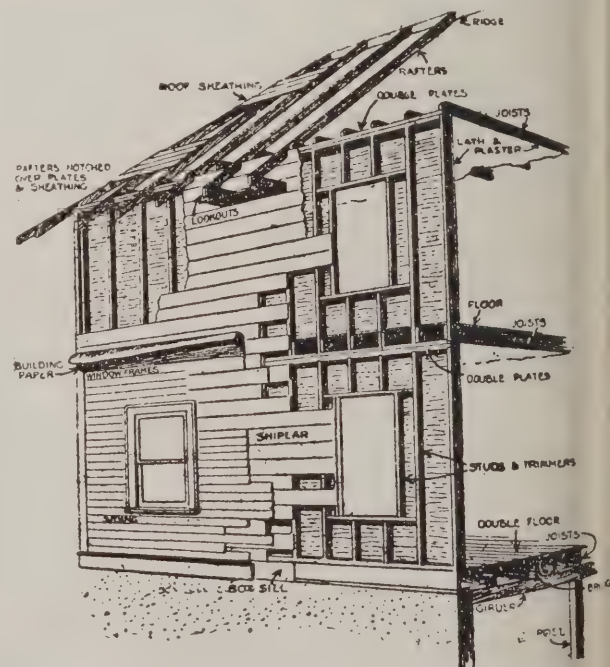
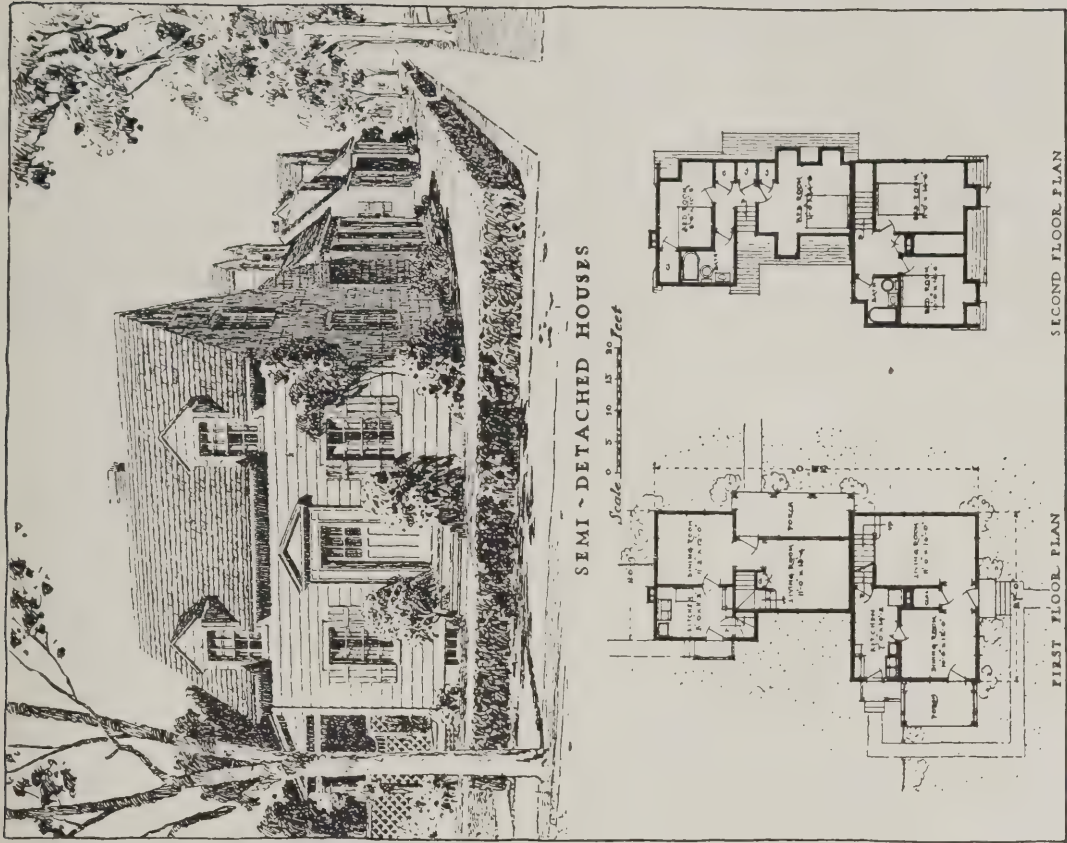
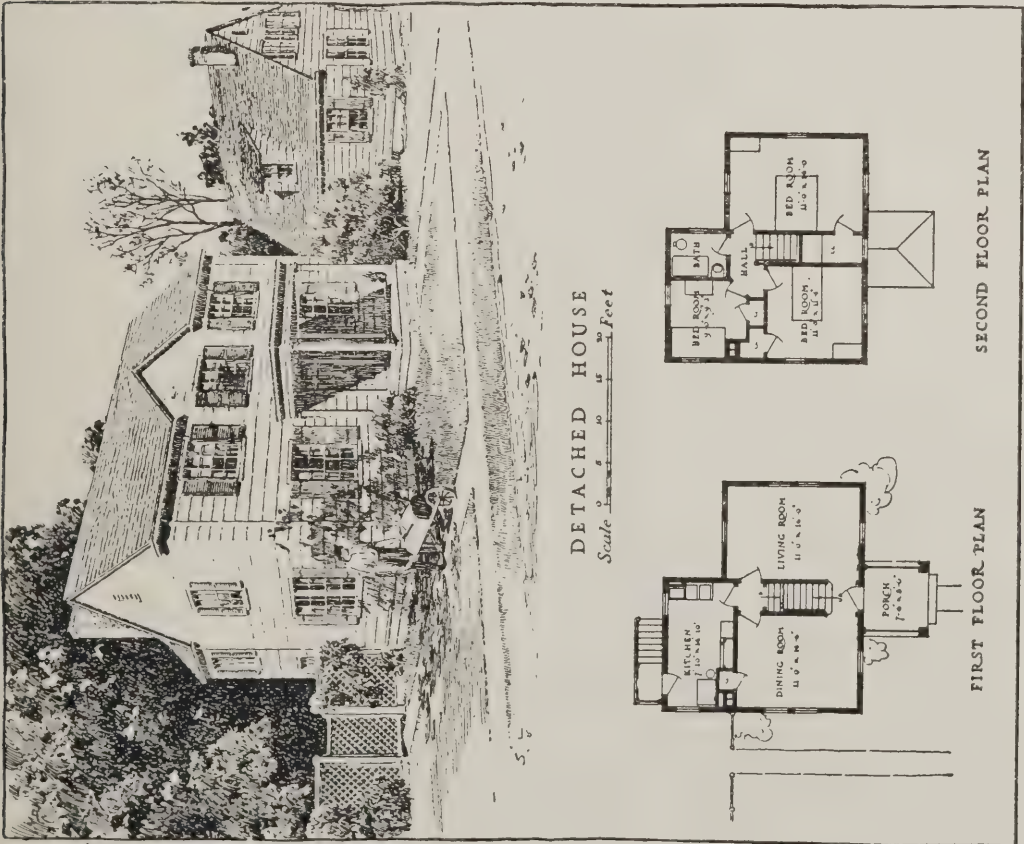
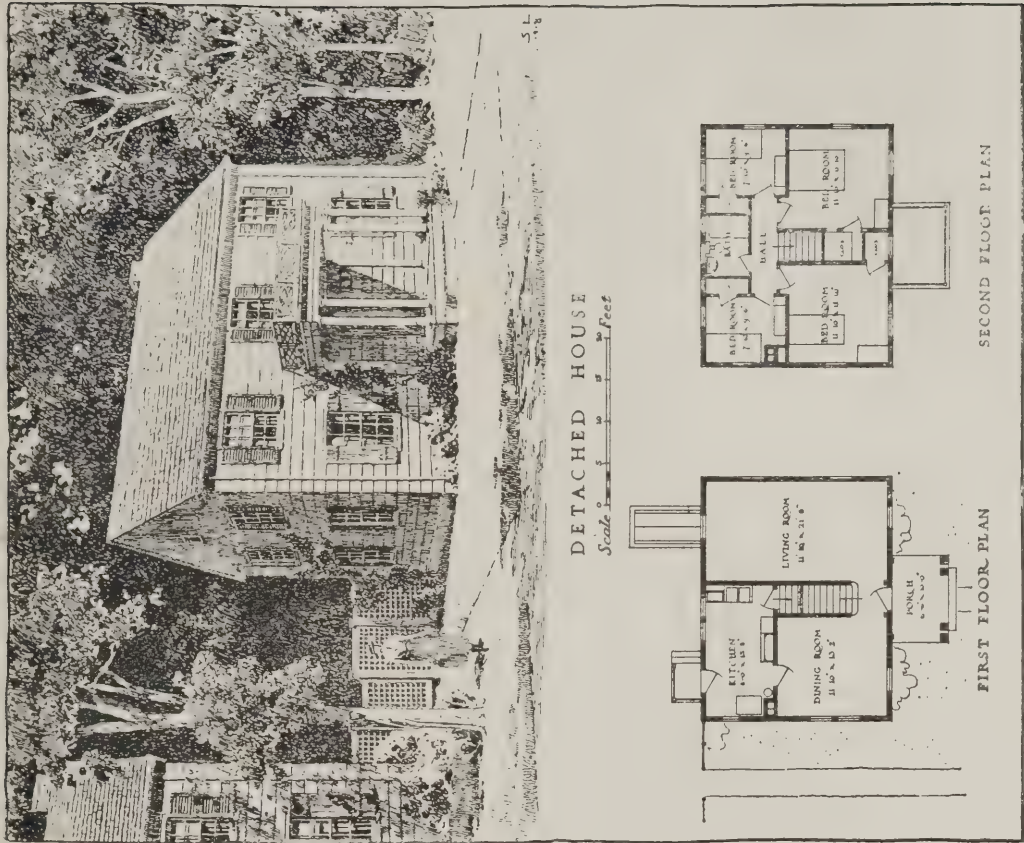


DIAGRAM SHOWING DETAILS OF AMERICAN "MILK CUT" HOUSE.

(From the Gordon-Van Tine Co.'s Book.)



SOME MODERN EXAMPLES OF AMERICAN WOODEN HOUSES. ABRAM GARFIELD, ARCHITECT.
(From the "American Architect.")

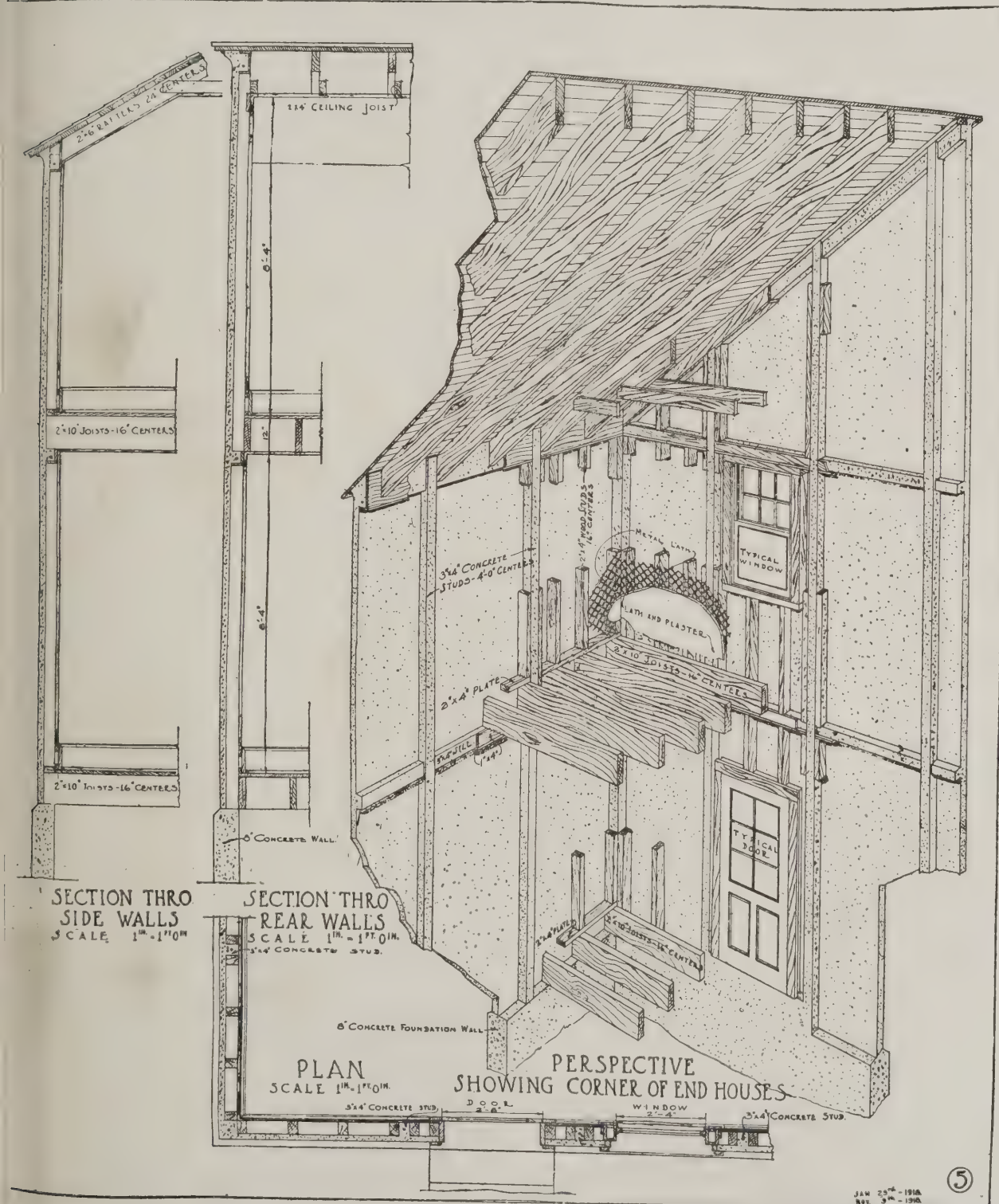


SOME MODERN EXAMPLES OF AMERICAN WOODEN HOUSES. ALFRED C. BOSSOM, ARCHITECT.
(From the "American Architect.")

rick wall. But when such a walling has no weight
try and can be secured to the main framework,
forms of construction become feasible. Many
ns of slab work or hollow concrete blocks have
devised and could easily be used. Probably
or double coke breeze slabs, which are remark-
free from internal condensation, would become
ourite system. Different forms of metal lathing
ender possible the employment of what are
lly hollow wallings of reinforced concrete. Even
ere necessary to use bricks (which would in any
be used for chimney breasts and stacks, if no
stone were available), quite fifty per cent. of
mber now required could be saved by the elimin-
of foundation courses and by building 9 in.

hollow walls of two 3 in. thicknesses of bricks on
edge, bonded with occasional headers.

In a paper on reinforced concrete read before the
Surveyors Institution in 1913, the writer suggested
that it should be possible materially to cheapen rural
housing by building frame houses, of which the external
framework of posts and beams would be of reinforced
concrete, wholly or partially pre-cast and matured.
The suggestion was somewhat criticised, but he was
recently informed that it had been largely adopted for
the housing of war workers in situations too inclement
for ordinary hutting. But whether timber or rein-
forced concrete framing be used is immaterial, so long
as we can get back to the structural economy and to
the structural possibilities of the old frame house. At



DETAILS OF CONCRETE AND FRAME CONSTRUCTION FOR WORKING MEN'S HOUSES.

BALLINGER AND PERROT, ARCHITECTS.

the moment, by-laws, of course, stand in the way; but their relaxation in cases of housing schemes is receiving the attention of the Ministry of Health.

[In conjunction with Mr. Waldram's article it is interesting to study the English and American wooden houses illustrated on other pages, and the sections, embodied in the article, of American houses constructed on the "mill cut" and the concrete stud and cement-stucco principles. As will be seen from the sectional diagram, reproduced from the Gordon-Van Tine Company's Book, in the "mill cut" house, each piece of scantling—doors, frames, rafters, etc.—is cut exactly to fit its neighbour. "Mill-cut" houses are now being strongly advocated by the "Daily Mail" as a means of meeting the great shortage of houses, and authoritative opinions on this method of construction were published in our last issue.

With regard to the sections of the concrete stud and cement-stucco principle, this system has been devised and perfected by Mr. E. G. Perrot, of Ballinger and Perrot, architects, of New York and Philadelphia, to meet the high cost and scarcity of building materials. Reinforced concrete is substituted for masonry walls, the concrete being applied either by hand or by means of a cement gun. After the cellar has been excavated a stone or concrete foundation wall is built. In the latter case the concrete is poured from a travelling mixer, with loader, into wood forms made in panels so as to be easily removable. The first-floor wood joists are then set in place on the foundation wall. On these a wood frame, consisting of studs, joists, and rafters, is erected in the usual manner of building the skeleton of a frame house. Every fourth stud is doubled, allowing a three-inch by four-inch space which is then filled with concrete to form a concrete stud. At the second floor and roof levels a ledger board, with bottom attached, is placed over the studs and so arranged that, when filled with concrete, they form beams, which, with the vertical concrete studs, make a homogeneous concrete frame. The concrete studs when completed are continuous from foundation to roof. On top of the lower ledger board the second-floor joists are set, then the second-storey studs, and so on. When this frame is completed, including the party wall, and the roof is on, heavy waterproof paper is nailed to the outside of the exterior wall studs, leaving the space between the doubled studs open to receive the concrete. Over the waterproof paper the metal lath, or concrete reinforcement, is stretched. The concrete studs are reinforced with steel rods fastened to the metal lath. The ledger boards have a bottom wood piece or form, so that when filled with concrete they act as beams to carry the floor joists and roof rafters. The wood studs act in the dual capacity of supporting the cement stucco while it is being applied and as furring strips in the finished building.

Everything is now ready to apply a 1½-in. to 2-in. thick concrete coating to the exterior by means of the cement gun, filling the space between the doubled studs to form the continuous vertical concrete stud. If for any reason the cement-gun is not available, the continuous vertical studs and ledger boards can be poured with concrete and the exterior metal lath coated with 1:2 cement mortar by hand. The concrete is 33 per cent. denser than ordinary poured concrete and about twice as strong. Colour effects may be obtained by adding mortar stain to the concrete while it is being mixed. No further treatment of the exterior wall surface is needed. For the roof either concrete, asbestos, and asphalted-felt shingles, slate, or some other form of fire-resisting material may be used. The rapidity with which this type of building may be erected is dependent mainly upon the number of cement guns put into operation, or, if the work is done by hand, by the number of workmen employed. After the framework of any number of houses has been set up the cement can be applied without any interruption.]

The Plates Described

Old English Weather-boarded Cottages.

IN view of the proposal to build wooden houses for the working-classes, attention may be appropriately directed to some of the old examples of weather-boarded cottages which still exist in this country. On the frontispiece is given a view of a delightful specimen at Ashted, Surrey; and on page 439 is shown a row of cottages at Capel, Surrey, of a somewhat more humble type, though certainly no less attractive. Both examples date from the latter part of the eighteenth century, and they demonstrate very convincingly the architectural possibilities of purely timber construction. The reproductions are from that delightful book by Mr. Stanley Ramsey, A.R.I.B.A., on "Small Houses of the Georgian Period" (Technical Journals, Ltd.), the demand for which has been so extraordinarily high that the first edition is already exhausted; a second is now in the press.

American Wooden Houses.

These four modern examples of American wooden houses are fairly representative of the type of work which has been so largely developed in the United States, the lines of the "Colonial" tradition. It will be noted that in the schemes illustrated the single houses are well apart one from another, so as to localise any possible outbreak of fire. The semi-detached groups are rendered immune from the fire danger, and it is doubtful whether the authorities would allow their construction in this formation in this country. Architecturally, the houses are of a distinctly pleasing character, with their shuttered windows—their doorways either crowned with a simple pediment or set off by a porch supported on slender columns.

A Byzantine Restoration.

In connection with his painting reproduced on the double-page plate, Mr. Arthur E. Henderson gives the following description:

"In the Propontis (the Sea of Marmora) are situated the Princes Islands. These, of which the largest, Prinkipo, distant about twenty-two miles from Constantinople, afforded a secluded retreat, safe and free from the turmoil of 'The City.' At the north-west end of Prinkipo in the year A.D. 1340 stands the superb Palace of the Emperor Andronicus III., Paleologus. Dimly seen through the haze over the sea are the domes of the two great churches of old Byzantium, Sancta Sophia and Holy Apostles. To the east and distant about two and a half miles, is the Anatolian shore; beyond rise the mountains adjacent to the Euxine (Black Sea), to the left the island of Halki stands out, and in the far distance the European shore of the Hellespont near San Stephano forms a dark line on the horizon. The Atrium has a large marble impluvium. At one end are steps arranged as a semi-circular termination, the other end contains an ornamental marble fountain. The inner front of the portal is of great elaboration, at the angles of the cloister, staircases give access to the upper rooms of the Palace. Marble is used in great profusion, and with patterned tesserae forms the floor. Columns as monoliths of various colours support the arches. Capitals, cornices, and bands display intricate carving. The same material is carved and shaped into balustrades, seats, screens, and candelabra. On the latter, during the day, are placed censers from which is emitted the fragrance of sweet incense. Here, in this cool cloistered Atrium of the Empress's apartments, after the heat of an August day, the ladies of the Byzantine Court are spending 'the Golden Hours' before sunset, free from the ceremonial of the Court."

A Louis XVI. Doorway.

A comparatively restrained example of design from the period to which it belongs, this doorway is notable for its fine scale and its simple yet highly effective treatment. Note the upturned cornucopias.



"THE GOLDEN HOUR": SUMMER PALACE OF THE

From a painting by



ONICUS III. PALEOLOGUS AT PRINKIPO, A.D. 1340.

Anderson.



LOUIS XVI. DOORWAY, HÔTEL DES MONNAIES, PARIS.

SOCIETIES AND INSTITUTIONS.

Useful Company of Carpenters.

Grades Training Schools of the Useful Company of Carpenters at 11 Titchfield Street, London, W.1, on September 22 for courses of 1, to all those engaged in the carpentry, joinery, masonry, painting, and decorating, plastering, tiling, bricklaying, etc. Banister Fletcher, F.R.I.B.A., director of the schools. The course to have a number of disabled soldiers at the schools, and so national work in training them in occupations.

University of London.

Programme of University Extension Courses for the coming session has been decided by the University of London. Courses are to be held in the City buildings and in the City, courses at some sixty local and around London. The subjects cover a wide range, and architecture. Sir Banister Fletcher, F.R.I.B.A., is lecturing on the history and modern architecture at the School of Arts and Crafts, and J. Ansell, M.A., A.R.I.B.A., on building crafts.

Architectural Association School's New Term.

The school term of the Architectural Association School of Architecture will begin on Monday, October 13. New students entering the school should register with the headmaster, Mr. W. T. Atterton, with a view to arranging an interview with the principal, Mr. Robert Atterton. The atelier for advanced design opens on September 29, under the direction of Mr. H. M. Robertson, Diplômé par le Gouvernement. The atelier is open to students in practice, assistants, and students. Application for admission should be made to Mr. W. T. Atterton. Entrance fee for the atelier is £10, and thirty shillings for each design subject taken. During the summer months at 34 and 35, Bedford Square library will be closed. Before the new premises an effort is made to collect all library books that have strayed. Members are earnestly requested to search their shelves for books and return them as soon as possible to 35, Bedford Square.

Institute of the Architects of Ireland.

A council meeting of the Royal Institute of Architects of Ireland was held in Dublin, the President, Mr. W. T. Atterton, F.R.I.B.A., in the chair. The meeting included one from the Town of Lymington, relating to the framing of conditions of competition for a new hall; one from the Town Clerk, requesting the Council to recommend an architect for the Athy Housing Scheme; and one from the Local Board stating that the Board, in accordance with arrangements made, had set up a committee to form of architects in connection with the scheme, and inviting the Council to nominate representatives thereon. The committee nominated Messrs. F. Batchelor, J. R. Caulfeild Orpen, and J. J. Sheridan, from whom two will be selected. Correspondence was also referred to difficulties that have

arisen between the members of the Institute and the Appointments Department in relation to the pupilage of ex-Service men desiring to train as architects, and the honorary secretary was directed to call the attention of the Department to the unsatisfactory condition of affairs. A circular from the Limavady and District War Memorial Committee inviting competitive designs for a war memorial hall was considered. It was decided to direct the Committee's attention to the omission of the appointment of a competent assessor.

CORRESPONDENCE.

Wooden v. Brick Houses.

SIRS,—The daily papers are now giving prominence to the vexed question of housing shortage, and inform us that the Ministry of Health is now prepared to consider the possibilities of the application of the so-called Colonial (i.e., cheap and rapid) method of construction.

We all know that one of the reasons for the delay in constructing houses which are badly needed is the high price of bricks, and the prohibitive labour cost of bricklaying, not due perhaps so much to the bricklayers' wages, but to the restriction on the number of bricks that the union will allow a man to lay in a given time. How this restriction is helping the working classes generally may be seen by the amount of building going on at present, which is not very much greater than nil, so that the trade union reasoning that the less a man does the more work to go round is proved false. The less a man does the higher the cost, the higher the cost the less likelihood of anyone building owing to his inability to obtain even the smallest return on his capital and enterprise, so that not only is there no work for more bricklayers, but work for other branches of the building trade is greatly restricted. I suppose that one of these days the unions will awaken to the fact that the more a man does the more work there will be not only for men of their particular union, but for men of all and every union. However, if we cannot have houses built at a reasonable cost in brick let us have them in wood or concrete.

I have lived in a wooden house in America and found it very comfortable. A most attractive house can be built in timber, and the walls and ceilings of rooms can be lined with a wall board which lasts as long as the building and which, apart from its artistic and pleasing appearance, keeps the house warm in winter and cool in summer. The use of such a wall board obviates any plaster in the house, so that houses so built are ready for instant use, as there is nothing to "dry out," as with plaster. Wall board is highly fire-resisting, sanitary, and vermin proof. It is also a sound deadener, and is not affected by atmospheric changes nor dampness.

The one great objection to timber houses is the risk of fire, not only to the house in which the fire starts, but to the adjacent houses. This can be minimised by allowing ample space round each house. There never was much sense in endeavouring to get as many houses as possible on to a given piece of land, and now that our railways are giving good services to the outer suburbs I see no reason why such houses should not have a spacious piece of ground all round them. It would certainly be better for the health of the community, and the fire risk would be reduced to a minimum.

D. ASHLEY FELTON.

MAKING OLD COTTAGES HABITABLE.

In devoting so much of our energy to the provision of new houses for the working classes we are, perhaps, somewhat in danger of overlooking an even more immediate and pressing need, that is the repair of the old ones. Scattered throughout the length and breadth of the country there are large numbers of old houses soon to be—perhaps already—marked down for demolition, many of which, by the exercise of a little thought and ingenuity, and the expenditure of a small amount of money, could be restored to a perfectly habitable condition and invested with a further long lease of useful life.

The problem of the old cottage is as much ethical as practical. Many of these humble dwellings date back to the Tudor period, and even beyond, and should rank among the most treasured of our national possessions. What right have we to condemn them to the pickaxe of the house-breaker? None whatsoever. We are merely the trustees of a priceless inheritance that should be carefully cherished and handed on, if humanly possible, intact to future generations. Most of these ancient cottages are delightful examples of vernacular art, racy of the soil in which they stand, and should surely be preserved if only as a guide to those upon whom rests the responsibility of providing those million odd new houses which we are some day to have.

The very strict housing laws now in force, however, decree their demolition if they are not speedily brought into line with modern hygienic requirements. Hence it behoves us to "get busy," as our American cousins have it, if we are not to wake up some unhappy morning to find a goodly portion of our national patrimony reduced to debris and dust. Happily, we have in our midst that ever-watchful band of architectural enthusiasts, the Society for the Protection of Ancient Buildings, who in the past have rendered inestimable service to the nation and to the cause of architecture by vigorous protest against pending acts of vandalism, and also by undertaking the actual repair of ancient buildings. They are evidently intent upon laying us all under still further obligations, for they have just issued a valuable and timely "Report on the Treatment of Old Cottages," by Mr. A. H. Powell, together with Messrs. F. W. Troup, F.R.I.B.A., Charles C. Winnill, and the Secretary, Mr. A. R. Powys.

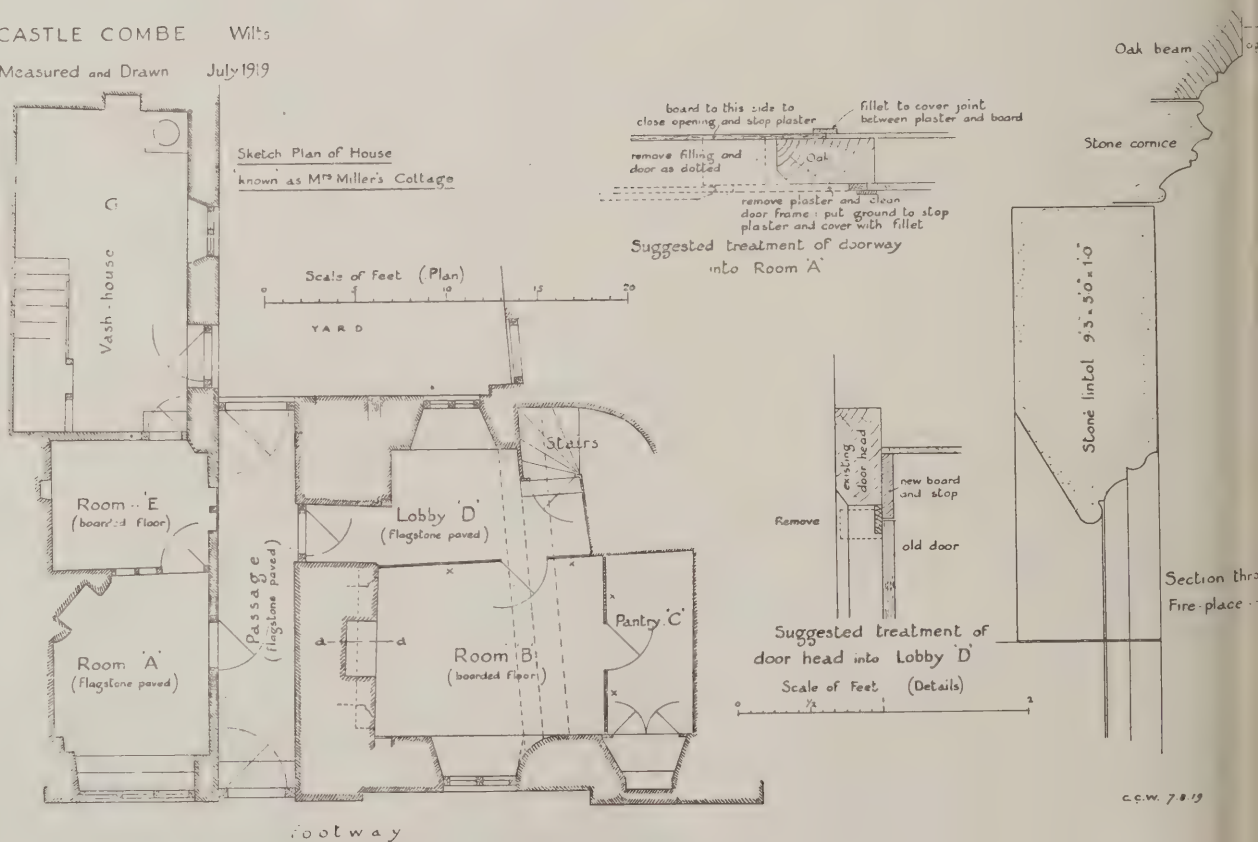
Realising the practical advantages of the concrete example, the authors devote their pamphlet to the consideration of some old stone-built cottages in the ancient village of Castle Combe, Wiltshire, said to be uninhabitable and beyond repair, and upon which they were invited to report some short time ago. They observe: "The general impression gained at first sight of good building throughout the village is fairly upheld after close examination, and the Society's representatives found that several of the more neglected cottages (now in danger of condemnation on account of consequent dilapidation) were the best built, their walls being sound and upright, the angles formed of large stones well set and quite undisturbed." To demolish such cottages would be iniquitous; and it is shown how by covering the roofs with new thatching and by carrying out some certain essential repairs they may again become habitable and comfortable homes. Thus by the expenditure of a small amount of money it



Photo: Mr. Charles C. Winmill.

CASTLE COMBE Wilt's

Measured and Drawn July 1919



OLD BUILDINGS KNOWN AS "MRS. MILLER'S COTTAGE," CASTLE COMBE, WILT'S.

(See Article on page 453.)

to achieve three very desirable the expense of entirely new actually add to the total of accommodation, and, finally, or the benefit of posterity some examples of venerable domestic

the most attractive and interesting in the village is that known as "Miller's Cottage," which consist of three cottages thrown By courtesy of the Society for Protection of Ancient Buildings we show a view of the street front, with a plan. It is thought that away from the street may have common entry to the cottages on the, as the doorways right and to be external entrance doors. The cottage, with its wide stone apparently intact, could easily be to its original state. The authors, of a rough specification and indicate what should be done, and rarely to be hoped that the work carried through. It is very gratifying that since the pamphlet was the Ministry of Health has to its responsibilities, and is make use of the Society's advice cases where valuable old cottages to be altered to suit modern needs. A few rural district councils in correspondence with the on the same subject, so the somewhat less gloomy than otherwise have been the case. It too strongly insisted that our old cottages must be repaired demolished, wherever repairs can into a properly habitable condition the pamphlet under notice provides a useful outline of effective progress may be obtained, price 2s. post application to the Secretary, 20, Abchurch Lane, London, E.C. 4.

DISCOVERIES IN EXCAVATIONS IN WINDSOR GREAT PARK.

Captain Vaughan Williams has made interesting discoveries at the site of Edward the Confessor's Palace in Windsor Great Park. He has found a wall of a courtyard, and, by using a compass, was able to determine its position. It is sixty-five yards in length from east by north-west front, and is a perfect square. Three men were employed in exposing the foundations, which are of flint and chalk. The old brick walls which supported the bridge has also been unearthed in a state of preservation. Its foundations are 13½ in. in length, 4 in. wide, and 1½ in. thick. They have no recesses like modern bricks. A modern road has been cut through the spot where the wall of the portcullis is thought to have been. Among other interesting discoveries, Captain Vaughan Williams has found a splendid specimen of Saxon work and also some antlers, which were found to dust on being handled. Captain Vaughan Williams, who has obtained permission of the King to make the excavations, is trying to trace the tower of the Palace in the centre of the courtyard. It is thought that water is found at a few feet below the surface everywhere, and estimates that there must have been 8 ft. or more of water in the moat when the Palace was built. He has discovered also two small square pits, in front of one of which a fender of tiles laid flat, lime being used as mortar.

TOWN-PLANNING INSTITUTE'S OXFORD CONFERENCE.

A conference has been held in the City Buildings, Oxford, on "Town Planning." The President, Mr. G. L. Pepler, F.S.I., presided, and amongst those present were Professor S. D. Adshead (London), Mr. W. R. Davidge (Housing Commissioner, London), Mr. F. M. Elgood (Housing Commissioner, London), Professor Abercrombie (Liverpool), Mr. G. Salway Nicol (Birmingham), Mr. Percy B. Houfton, Mr. S. C. Ramsey, Mr. James Thomson (City Engineer, Dundee), and many representatives of urban and other local authorities.

The President proceeded to consider briefly some of the present needs of society in Great Britain, and then discussed in what direction they as town-planners could best be of service to the community. To make good homes possible was the central aim of the town-planner. The erection of good homes, both in addition to and in place of those that exist, was such an urgent matter that it might hardly seem possible at the moment to find time adequately to "look before we leap." In this respect they were suffering from the lack of the exercise of foresight in the past, so that a counsel of perfection was not immediately possible. However, a great deal could be done if each member of the Institute—and they were reinforced by splendid propaganda bodies—who was concerned in a housing scheme tackled it in the town-planning manner, and all the time with persistence tried to get things looked at from the town-planning point of view. In considering what that meant, he suggested it might be useful to refer to the examination syllabus of the Institute, where they found set out the matters to be taken into account and dealt with. He detailed some of the subjects dealt with in the examination syllabus, which were all concerned ultimately with their ideal of happy homes, and said they would perhaps help to refresh their memories and renew their appreciation of the magnitude and complexity of the whole problem. It also emphasised the enormous importance of the proper allocation of sites for housing, industrial and other purposes, and a prior need for a general survey of the resources and possibilities of the whole country. During the war a great deal of research work was initiated by the Ministry of Reconstruction, and one hoped that the reports that were issued would be acted upon. Research work must not stand in the way of dealing with immediate necessities, but it would be worth the country's while to endure a little discomfort if in the interval a general plan were evolved that would show the right road for many years to come, so that nothing of what was done would be wasted. In the meanwhile they could all help, if they tackled their immediate task with a wide vision in their minds. The responsibility of carrying out the Housing and Town Planning Acts was in the first place placed upon local authorities, but they as town-planners need not be tied by the local point of view. The hope of the future lay in education, and a general appreciation of the benefit of town-planning in its widest sense (without which appreciation as experts they would be able to make but slow progress) would be greatly stimulated if their schools paid more attention to their own time and place. Their task was not easy, but it was intensely interesting, and had been made lighter by the

new machinery provided by the Act, for which their thanks were due to the first Minister of Health. Let it be their delight, in whatever work they were engaged, to put into practice the ideals of their profession.

Mr. J. Thomson proposed a vote of thanks to the President for his paper. He had introduced some very striking and original points.

Mr. F. M. Elgood seconded.

The President replied, and then opened the meeting for general discussion.

Professor Adshead said he thought on the whole too much attention, and probably too much interest generally, had to be devoted to the actual practical methods of carrying out the town-planning scheme, and that actual interest and attention had not been given to town planning itself. They would have in the future to make their plans more imaginative and interesting. The Act of 1919 did not carry them much further than the old Act. He was extremely disappointed. It did not emphasise a wider area for a scheme than local authorities had been in the habit of dealing with in the past. The new Act should have included all land within an area suitable for town-planning. It had not done that, and they would have to rely on education and interpretation.

WEEKLY HOUSING REPORT.

The return of housing progress issued weekly by the Ministry of Health states:

The number of new schemes submitted to the Ministry during the week ended September 27 was ninety-three, bringing the total number of schemes submitted by local authorities and public utility societies to 5,105. The total number of schemes approved was 1,723. The number of house plans submitted was 633, representing 36,464 houses. House plan schemes representing 22,649 houses have been approved.

Details of local authorities' schemes dealt with during the week are as follows:

Building Sites.

Schemes Submitted.—The number submitted by forty-five local authorities was ninety-two, bringing the total number of schemes to 5,037, covering approximately 43,000 acres.

Schemes Approved.—Eighty schemes were approved, comprising an area of 556.56 acres. This brings the total number of local authorities' schemes approved to 1,704, covering approximately 20,000 acres.

Lay-outs.

Schemes Submitted.—Fifty-three schemes were submitted by thirty-four local authorities, bringing the total number of schemes submitted to 949.

Schemes Approved.—Forty schemes, promoted by twenty-five local authorities, were approved, bringing the total number of schemes approved to 504.

House Plans.

Schemes Submitted.—Forty-two full schemes and one part scheme, representing 1,215 houses, were submitted by twenty-four local authorities. This brings the total number of local authorities' schemes to 603 and the number of houses to 31,821.

Schemes Approved.—Thirty-three full schemes and one part scheme, promoted by twenty-eight local authorities, were approved, bringing the total number of full schemes approved to 381 and the number of houses represented to 22,028.

Enquiries Answered

The London County Hall.

COLONIAL writes: "Would you be good enough to give me a brief history of your London County Hall, now being erected on the south side of the Thames near Westminster Bridge?"

—Although the County Hall is little more than half completed, its history is of quite respectable antiquity. It was first projected so far back as 1906, when the Establishment Committee of the London County Council recommended the holding of a double competition, to be open to architects of any nationality. In the preliminary competition not fewer than ten, and not more than fifteen, of the best designs were to be selected in private by the assessors. The final stage was to be open to (1) the authors of the designs selected in the preliminary stage, and (2) not fewer than eight leading architects, who were to be specially invited to send in designs. The result of the competitions was announced late in January, 1908, the successful competitor being Mr. Ralph Knott, then a young and comparatively unknown architect, twenty-nine years of age. The assessors were the late Mr. R. Norman Shaw, R.A., Sir Aston Webb, R.A., and Mr. W. E. Riley, late superintending architect to the L.C.C. The total cost of the work, including acquisition of site, erection of building, and embankment along the river front, was originally estimated at £1,711,000, but this cost will no doubt be greatly exceeded owing to the increased cost of labour and materials. The foundation-stone was not laid until so late as March, 1912, the ceremony being performed by King George. Work was seriously interrupted by the war, and now nearly fourteen years after the initiation of the competition the building is still far from complete. Only last week, as though in protest against the protracted delay, the building contrived to set itself on fire.

Concrete Guttering for Housing Schemes.

F. G. C. writes: "I enclose a section showing the proposed concrete guttering, which I made in response to a suggestion that it should be used on a housing scheme on which I am engaged. The guttering would be made in lengths of 2 ft. or 3 ft., and the waterproof rendering inside added after fixing. Return ends would be specially cast and outlets made by fixing a small piece of iron pipe in a hole left for the purpose. Can you tell me if this method has been used at all, and if it proves more economical than the ordinary construction? The guttering would have to be laid level, but a slight fall could probably be obtained when rendering afterwards."

—The construction is not unfamiliar, and we have never heard of any failures, but the top member is decidedly slender, and there would appear to be some risk of fracture under a heavy load of snow, although the stress on the concrete in tension would probably not exceed 50 lb. per sq. in. The falling of a fractured length would be a serious matter, and we suggest that the joints be joggled with short length of iron pipe or rod cast in. A far better, but somewhat more expensive, safeguard would be a light reinforcement of wire netting or expanded metal pressed into the upper surface when the lengths are cast. This reinforcement

should be flush, but need not be below the surface, as it would be protected with the subsequent rendering.

Ascertaining Web Members.

In our issue for September 17 (p. 369) a correspondent enquired: Would some of our mathematical readers explain in detail how "Humber" obtains the web members on p. 41 of his book on strains?

Mr. Robert F. Sherar sends the diagrams given on p. 459, and writes as follows:

In explaining questions of this sort the great value of Maxwell's reciprocal diagrams and Bow's notation is apparent, and is strikingly illustrated here in pointing out an error of a kind that one is very apt to make when using calculations alone without diagrams.

On page 41 methods of calculation are shown founded on the parallelogram of forces and composition and resolution of forces which resolve into a series of polygons of forces. A reciprocal diagram is simply the complete set of polygons collected together in one drawing, and any confusion that might occur by the overlapping of lines common to two polygons is avoided by the use of Bow's notation.

A polygon of forces may consist of a single line, and must close if the forces it represents are in equilibrium. Thus, on the reciprocal diagram annexed, in the polygon of exterior forces (or the loads and reactions), we have A to K the vertical

forces from applied loads, K to L the hand reaction, and L to A the reaction, closing at A, where it starts.

The stresses in all the members of the truss are then found by adapting the load polygon a series of polygons, each point of contact on the frame diagram. Thus, at the left reaction three forces, L A 1 L, and as A is already on the reciprocal diagram, all that have to do is to draw A1 and L1 to these two bars on the frame diagram to find point 1 on the reciprocal diagram.

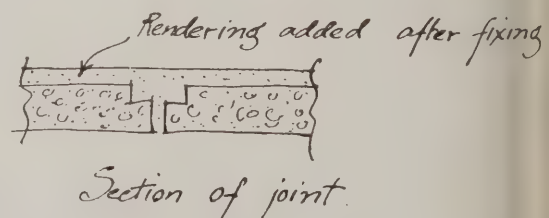
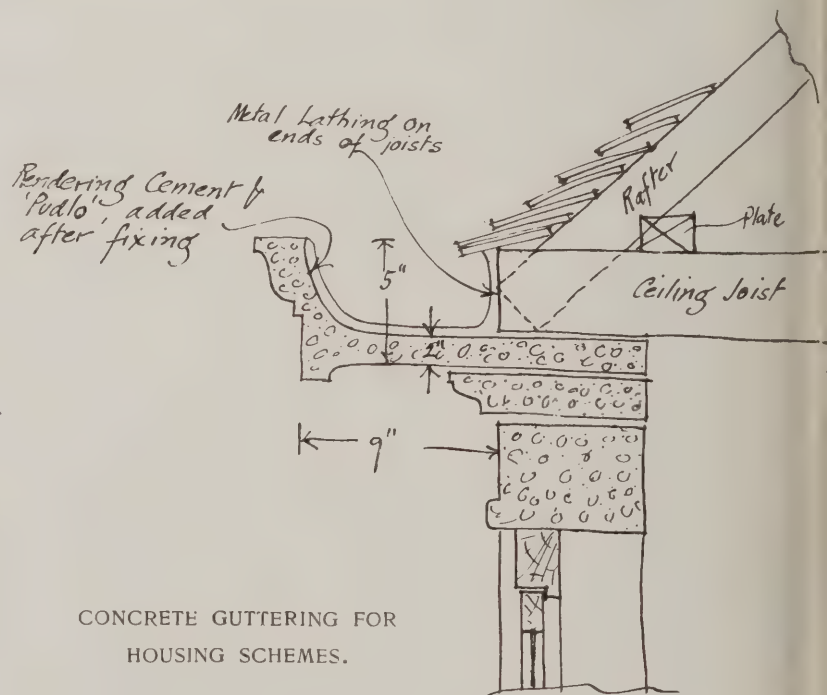
In the reciprocal diagram the stress of each load and the stress in each member is shown by the length of the lines, and the vertical distance between the ends of any of these stress lines represents the vertical components referred to.

Along with Humber's formula at the bottom of page 41 has to be read the explanatory sections referred to, as on p. 40 and 80, but by altering the order of the elements in that formula its application will be clearer in this particular case.

Formula.—The stress in any member = $\left\{ \begin{array}{l} \text{vertical component of bottom chord stress} + \text{shear} - \text{vertical component of top boom stress} \end{array} \right\} \times \secant \text{ of angle}$

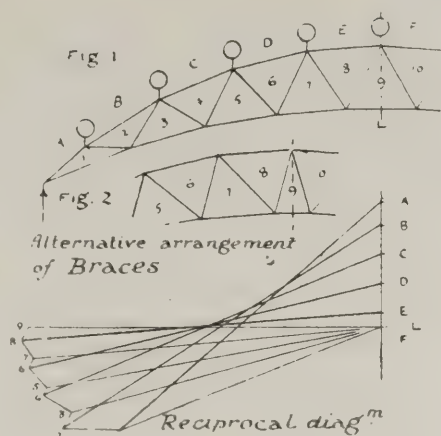
Then with the reciprocal diagram in front of us, and allowing upwards to be plus and downwards to be minus, we can take the bars in turn.

The bars 1, 2 and 9, 10 are peculiar



to 8, 9 all follow the formula
Take 2, 3 then first.

ical component of bottom boom
2 L, the shear is + L B, and
1 component of top boom stress
all measured vertically, and
the algebraic sum of these quanti-
tical height between 2 and 3
ical component of the stress in
which has now to be multiplied
of the angle of the bar. The
at by dividing the length of the
vertical height between its ends,
on frame diagram at bar 4 5,
for all the bars to 8 9, noticing
that bars 3 4, 5 6, and 7 8 are
and have therefore no secant (see
w). Taking bar 1 2 now, it is
the reciprocal diagram that the
is as stated in Humber, the
between the vertical components
s in 1 L, L 2, but following
a we have vertical component of
om 1 L, no shear, no top boom,
d we have—the vertical com-
another bottom boom stress L 2,
2 as the vertical component re-
d being a vertical bar there is
king bar 9 10 and applying the
e have no bottom boom and (re-



ferring to shear diagram at this point) no
shear, so we have only the vertical com-
ponent of top boom 9 E. This, however,
would mean that it coincided with the
shear in the adjoining bays added to-
gether, which a very little reasoning would
show was not correct. Treating this,
then, as an exception to the rule, the same
as bar 1 2, as we have here two top
booms changing the direction of the forces

and looking rather to the reciprocal dia-
gram, we have: The vertical component of
top boom 9 E — the shear stress in the
two adjoining bays E, F + the vertical
component of top boom F 10, which gives
the correct result, 9 10, and measures .82
on reciprocal diagram. This is just double
what Humber gives, and is easily demon-
strated to be correct by simply following
the polygon of forces, on the reciprocal
diagram, of the forces for the bars L 8, 9,
10, 11, L, which would not close with .413.

In the following table the letters in the
first column are the letters from Humber,
the figures in the second column are from
the annexed diagram for the same
members, arranged on Bow's system of
notation, but using letters between the
exterior forces and numbers between the
members of the truss, which is a very
convenient arrangement.

The results are from Humber's table,
except the correction for 9, 10, and will be
found to be considerably larger than the
measurements on the reciprocal diagram
owing to the difference in scaling the
depths of girder which, for practical
reasons, are best kept small, so as to give
rather greater results than less, unless
absolutely accurate results are required, as
in very large structures. A formula is
given by which the lengths of the vertical
braces may be calculated; odd measure-
ments may then be scaled with great
accuracy from a larger drawing, as shown
for compartment No. 1.

A formula for calculating the angle of
any chord or tangent to the curves is also
added.

If the loads were on lower boom the
diagram would be as shown on Fig. 1.

The shaded portion of the shear diagram
is the correct one for the conditions, the
straight line being for the distributed load.
This explains why the shear stresses are
taken off the latter in the middle of the
bays, as shown on Humber's Plate 1, but
the actual zero point has to be reckoned
with, as already pointed out:

		Vert. compt. bottom boom.	Shear.	Vert. compt. top boom.	Secant.	Stress.
FK	9 10	none	nil	— '85	none	— '85
KE	8 9	('48 + '438	— '85)	× 1'7	— '114	
EJ	7 8	'48 + 1'3	— '26	none	— '82	
JD	6 7	(1'4 + 1'3	— '26)	× 2'0	— '218	
DI	5 6	1'4 + 2'2	— '43	—	— '7	
IC	4 5	(2'22 + 2'2	— '43)	× 3'5	— '42	
CH	3 4	2'22 + 3'07	— '62	—	— '98	
HB	2 3	(3'00 + 3'07	— '62)	× 9'5	— 1'24	
BG	1 2	3'00—3'7	—	—	— '7	

F, K, 9, 10, to be correct should be as
under:

none — '875 + ('85 × 2) none '825.

An alternative arrangement of braces is
shown and marked Fig. 1, which is well
worthy of consideration, as explaining
more clearly the peculiarity at the centre
brace.

In this arrangement the stresses in all
the braces are easily followed by prefix-
ing ± to the shear as well as to the verti-
cal components thus: See reciprocal dia-
gram the stress in 1, 2 = { + 1L + LB —
B2 { × sec.; 2, 3 = { + 2B — BL —
L3 { × sec.; and so on to 7, 8 = { + 7L
+ LE — E8 { × sec.; and 8, 9 = { + 8E
— EL or 9 { × sec.

Now, suppose the two centre braces 8, 9,
10 to be gradually moved towards one
another, as shown on Fig. 2, until they
coincide as 9, 10 in the original arrange-
ment of braces. So long as there is any
space between them the formula acts all
right, but until they actually coincide there
are two bars, and when they do coincide
the one bar must have the strength of the
two.

HUMBER on STRAINS

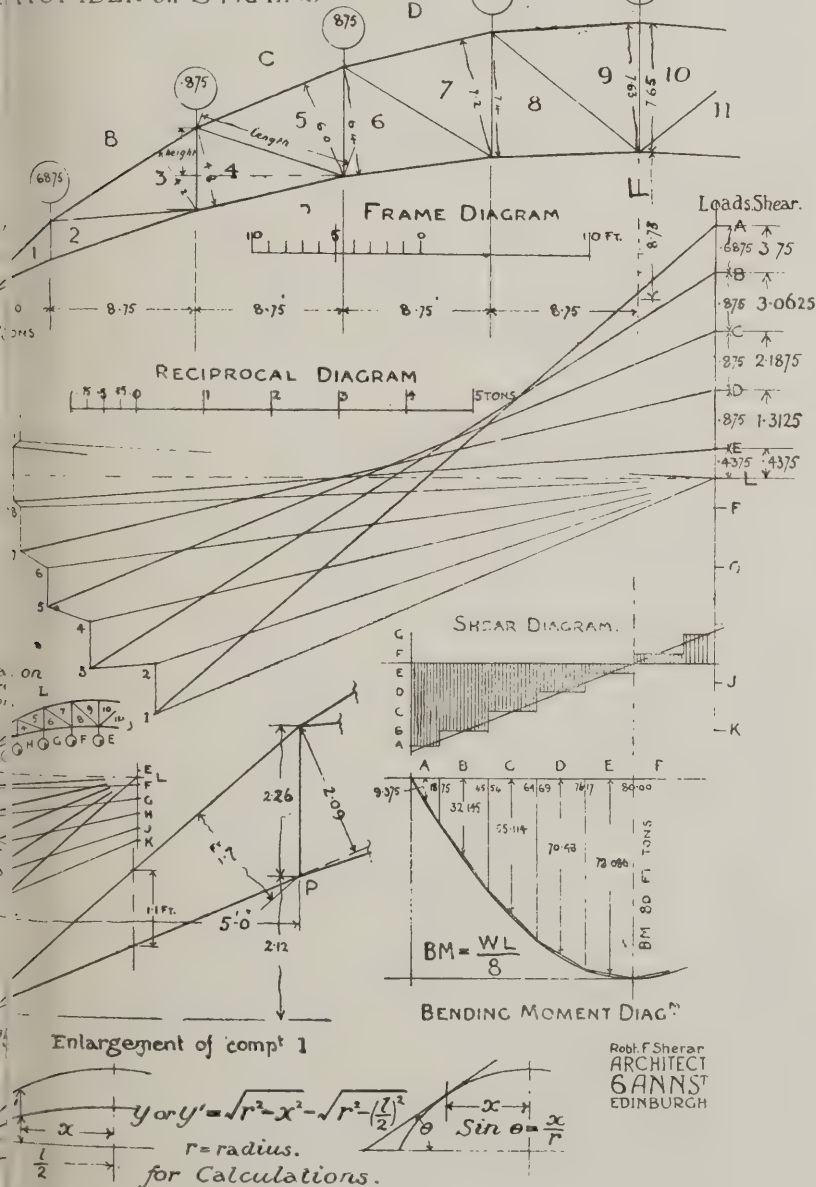


Fig. 2.

METHOD OF ASCERTAINING WEB MEMBERS.

Town Development and Housing

Converted Houses at Greenwich.

Forty houses in Greenwich are to be converted into flats to accommodate one hundred families.

Wood and Concrete Houses.

South Wales towns are being offered timber-built cottages on concrete pillars at a maximum cost of £300 each.

Gwyrfaï Housing Plans.

The Housing Committee have decided to build 334 houses in the district, and to proceed as soon as possible with 155 of them.

Government Housing Policy.

As a protest against the Government housing policy, Mr. Edwin Evans has resigned his position as vice-chairman of the Working Classes Housing Committee of the L.C.C.

Birmingham and Wooden Houses.

Birmingham Housing and Town Planning Committee have reported to the City Council that they regarded unfavourably the erection of wooden houses, and at present saw no reason to alter their decision.

Forty-four Houses for Smethwick.

Smethwick Housing Committee have considered tenders for the erection of the first forty-four houses on the Hales Lane site. Sanction has been granted to the borrowing of £25,000 on account for the housing scheme in the borough.

Cambridge and Huts.

A scheme projected by the Housing Committee of the Cambridge Corporation for the conversion of the buildings of the First Eastern General Hospital into temporary housing accommodation for some hundreds of families has been approved by the Corporation.

Housing Shortage at Paris.

It is estimated that Paris has a population of roughly 4,000,000, but that to give beds to all those who are anxiously seeking them 50,000 new houses will need to be found. There appears to be a great shortage of workmen and the necessary building material.

Guildford Housing.

The Guildford Corporation have received 324 applications for eighty-two cottages now being erected under the Government scheme. Many letters have been received from London, Kent, and Sussex in addition, but preference will be given to people working and living in the town. Some of the houses will be ready for occupation next month.

Architects' Fees for Housing Schemes.

The R.I.B.A. have issued a circular giving the fees to be paid to architects and surveyors for professional services rendered in connection with housing schemes. The scale of fees, which was published in our issue No. 1289, page 369, as a communication from the Ministry of Health, has now received the sanction of the R.I.B.A., and the approval of the Ministry, the Board of Agriculture and Fisheries, and the Scottish Board of Health. Special arrangements may be required in exceptional circumstances, but the scale of fees will apply to ordinary cases.

Hendon's New Houses.

Hendon Urban District Council have accepted a tender of £29,888 for the erection of thirty-seven houses at Child's Hill, an average of £808 per house. This does

not include the cost of site, street works, and sewers. The rents will range from 19s. 3d. to 23s. per week. This will produce £2,077 per annum, while the estimated charges and other expenses amount to £3,133.

Edmonton Housing Scheme.

The housing scheme to be submitted to a special meeting of the District Council is estimated at £2,000,000, including the purchase of the site. The scheme provides for the erection of 2,000 working-class houses on the Hyde Estate, Lower Edmonton, which has been in the occupation of the Royal Air Force.

Housing at Trowbridge.

Trowbridge Urban Council have completed negotiations for twenty-two acres of land for housing. An agreement has been arrived at as to price, which will be £2,305, or an average of about £105 per acre. On a calculation of ten houses to the acre, the number recommended by the Ministry of Health works out at a little more than £10 per plot.

Yardley and Concrete Houses.

Yardley Ward Ratepayers' Association have forwarded the following resolution to the chairman of the Birmingham Housing Committee: "That, in view of the urgent need of houses and for economy in building, the Housing Committee be requested to give full and sympathetic consideration to the erection of concrete houses similar to those being built with much success in other parts of the country."

Brighton's Hut Project.

Brighton Corporation have decided on their first housing scheme, which, at a cost of £14,350 is to provide fourteen houses, and also includes the purchase and conversion of thirty-one huts at the Kitchener Hospital at an additional outlay of £8,326. Hove Corporation decided to purchase seven huts at Portslade Camp for conversion into houses, the idea being to take over the complete camp later.

Birmingham Housing.

In Belcher's Lane, Birmingham, where twenty-eight houses are to be put up, one block of four are already well in hand, and progress is being made with the other blocks of four. In Linden Road, where eighty-one houses are to be built, the excavations and clearances are being proceeded with, and good progress is being made with the preliminary work in Cotterill's Lane, where fifty houses are to be erected.

Housing Delay in Ayrshire.

At a meeting of the Ayr District Committee of Ayrshire County Council Mr. J. B. Fergusson, Ayr, Chairman of the Housing Committee, said that the Committee, from the first, had been anxious that there should be no delay with regard to housing, but now, for the first time, the Local Government Board sprang upon them the information that approval of the sites would not be finally made until a mining engineer had reported upon them. Since June they had pressed for inspection of the sites by the engineer to avoid unnecessary delay, but no inspection had taken place. Eleven weeks had been lost solely through this being sprung upon them. In the meantime, roadmen's houses undertaken by the Committee were

almost completed, simply because they had not been subject to Governmental delay. Mr. R. Brechany, Dalrymple, joined in the protest that had been made, stating that the public should know to whom the blame lay for the delay. The great want of houses was the cause of much unrest throughout the country.

Housing in Devon.

The Devon Co-operative Conference have passed at Torquay a resolution calling upon the borough and rural authorities of Devon to take immediate steps to build cottage working classes, which shall be the property of the various councils at a rate of two for each hundred of the population; and calling upon the Treasury to find the money necessary for housing schemes at the lowest possible rate.

Concrete Cottages in New South Wales.

The Minister for Housing in New South Wales officially opened at three cottages erected in connection with the Stockton (near Newcastle) suburb. Other cottages are near completion, and there is room for 35 cottages on the area which has been laid out on well-planned lines with many other attractive features. All the cottages are being constructed of concrete at a cost of from £400 to £500 according to size, and the occupiers have the right to purchase their own houses in weekly instalments.

A Town and Country House.

The Eaton Bray (Bedfordshire) Housing Committee have decided to exercise their power under the Housing and Town Planning Act to compel the owner of a furnished house occupied during the air raids by a family living in London, either to live in the house or let it. An official of the Ministry of Health is reported as saying that the decision of the Eaton Bray Housing Committee, although we do not know the facts of the case, seems quite reasonable under the Housing and Town Planning Act. The fact that it is a furnished house raises a knotty problem, but I expect when the house is taken over the owner will be removed by the owner."

Leeds Housing Scheme.

The Improvements Committee of Leeds Corporation have accepted tenders for building the first forty-seven houses on the Hawksworth Wood Estate, Leeds city housing scheme. There will be two contracts, one with William and Son, Leeds, for forty-one houses at a cost of £33,393, and the other with Thompson and Son, Leeds, for six houses at a cost of £4,185. Total, £37,578. The accommodation in some of the houses will be living-room, parlour, and scullery; the others will be without a parlour. The average cost of the former being £890, and the latter about £730. At least half of the forty-seven houses will be stone-faced, and each will have a garden. The committee also previously accepted tenders for a further eleven houses on the same estate; but these have to be confirmed by the Housing Commissioner. In addition to the houses it is understood that next tenders will be open for a further ten houses.

The Week's News from Far and Near

Wrexham War Memorial.

Memorial, consisting of a monument and five brass tablets, has been dedicated at Wrexham Parish Church.

R.I.B.A. Library.

Students are notified by the R.I.B.A. that from October 1 until November 1 the library will be open from 10 till 5 p.m. on Saturdays.

National Trade Union Conference.

This month Messrs. W. Bradshaw and others, of the National Federation of Trades Operatives, will attend the annual conference of building trades in Amsterdam.

John Soane's Museum.

John Soane's Museum, 13, Lincoln Fields, W.C., an interesting collection is open free Thursdays in October from 10.30 a.m. to 4 p.m., and in November from 10.30 a.m. to 4 p.m.

Halifax War Memorial.

At the Halifax Town Hall a resolution was passed in favour of the erection of a monument on Beacon Hill, and the erection of a more prominent monument in the centre of the town.

Society of Architects.

The annual meeting of architects of Cork was held at the Board of Trade, Cork, Blackrock, and it was unanimously decided to form a local Society of Architects, Engineers, and Surveyors.

Commissioner for Germany.

Mr. W. F. Thelwall, M.C., has been appointed Senior British Commercial Representative in Germany, and is now at Berlin where he may be addressed at the British Mission, Berlin. The duties of the British Commercial Commissioner in Germany will be analogous to those of a commercial secretary.

Memorial for Eccleston.

Mr. F. R. Dixon-Nuttall, of Eccleston Park, Prescott, has announced his intention of providing the township of Eccleston with a war memorial to cost £10,000. It is proposed to erect the monument on some vacant land at Eccleston Lane Ends, where the St. James and Burrows Lane form a junction.

Architectural Partnerships.

Mr. G. Newton (Licentiate Architect) who was demobilised in May, 1919, has entered into partnership with Mr. M. G. Newton, June 1, 1919. The firm is now trading under the style of Pechell and Newton, 17, John Street, Bedford Row, London, W.C. Mr. Knapp-Fisher, A.R.I.B.A., and Mr. Lawrence Powell have entered into partnership and will practise under the style of Knapp-Fisher and Powell at 1, Abchurch Lane, Westminister, S.W.1. Mr. Knapp-Fisher has in consequence moved his address from 23, Old Buildings, Fleet Street, to 33, Palace Street, London, E.C.4.

Corporation and Direct Labour.

The high figures in the tenders for the new private contractors, Walsall Corporation, have decided to carry out the new scheme by direct labour under the supervision of the Borough

Surveyor, who was of opinion that, with a guarantee from the Ministry of Health as to the supply of materials and labour, a considerable saving could be effected.

"White City" Scheme at Cardiff.

A company has been formed to acquire about one hundred acres of land belonging to the Marquis of Bute for the purpose of erecting in Cardiff a permanent "White City." The promoters, it is stated, are prepared to spend £300,000 on the scheme. The proposed site is on land owned by Lord Bute off Leckwith Road and Dumballs Road, near Jubilee Park and the Cardiff City ground.

Catholic War Memorial at Bexhill.

The work of erecting the Bexhill Catholic war memorial is proceeding apace. It is being built on the St. Mary Magdalen Church ground, and the material being used in its construction is the same kind of stone as used in the erection of the church. This stone is of very durable quality, and the memorial is to take the form of a shrine. The foundation-stone was laid a short time ago by Lord Morris.

New Wing to Exmouth Home.

A new wing has been built to the Exmouth Ministering Children's League Seaside Home. The new wing is constructed of red brick, with the upper storey rough-cast, and tiled roof. It includes a spacious living and play-room, as well as an isolation room, and sleeping accommodation for ten extra children, thus enabling the home to care for twenty-eight convalescents at one time. There are additional bathrooms and other conveniences, while an outside safety staircase will be added as soon as funds permit.

No Overtime for Builders.

The decision of the building trades' operatives not to work overtime pending the meeting of the Conciliation Board of the north-western region to consider the demand for increased rates to the amount of 4d. an hour has been carried into effect in Manchester. None of the operatives, who include masons, bricklayers, plumbers, carpenters, painters, plasterers and labourers, is supposed to work under the terms of the decision otherwise than between the hours of 8 a.m. and 5.30 p.m.

Christ Church, Oxford, War Memorial. Proposed New Buildings.

To perpetuate the memory of the members of the House who have fallen in the war the Governing Body of Christ Church has decided (1) to preserve in the cathedral a Liber Vitæ inscribed with the names of the fallen; (2) to place elsewhere in the House a wall tablet or list of names; (3) to extend the college buildings that accommodation may be provided for more undergraduates, especially for those of limited means. It is proposed to provide accommodation for at least thirty more men in college—on the basis of keeping 240 as the maximum number reading at any one time for a degree. The new sets of rooms will be of various types and sizes, to suit men in different financial circumstances.

Exhibition at Caracas.

The exhibition at Caracas has now been finally fixed for December 19 next. It has extended its scope, and is now spoken of as a National Exhibition, and there is an

opportunity for the exhibition of British sanitary equipment, which is of special importance in view of the fact that the Venezuelan Government has under consideration a scheme for the installation of a proper drainage and sanitary system for the city of Caracas. Provided full particulars of goods to be exhibited are supplied by October 31 next, arrangements can probably be made for receipt of these exhibits up to November 20. British firms desirous of participating are invited to consign exhibits to Victor Maldonado, Caracas, who is willing to undertake all responsibility free of charge. Consignments for Caracas should be shipped to the port of La Guaira, which is served by the Royal Mail Steam Packet Company, the Leyland Line and the Harrison Line.

Alms-houses Menaced at Whitgift.

Croydon Borough Council are to promote a Bill in Parliament authorising the demolition of Whitgift Hospital Alms-houses, built by Archbishop Whitgift in the reign of Queen Elizabeth, and said to be one of the finest examples of Elizabethan architecture in the country. The decision was reached by twenty-six votes to seventeen, after two other alternative schemes of street widening had been considered. The defenders of the building claimed that in 1913 they had the support of the Local Government Board, and they also pointed to the numerous resolutions of learned societies against any interference with the old hospital, and that it was to be scheduled as one of the historical monuments for permanent preservation. On the other side it was argued that no improvement scheme could be satisfactory which left the hospital alone, and that Parliament should decide the question once for all. The proceeds of the sale, it was said, would enable the governors to house the inmates in quieter surroundings and amid more healthy conditions.

Sir Charles Ruthen Answers his Critics.

Sir Charles T. Ruthen, who has just put up three wooden houses within thirty days on an exposed site on the Bristol Channel at Newton, near Swansea, has, according to the "Western Mail," replied as follows to some of the criticisms levelled against the wooden house. "My houses are finished off in such a way that even at close quarters an architect could not tell the difference between them and similar brick houses, unless he actually measured the walls," he said. "The outside and inside walls are covered with stucco, the rooms being decorated with distemper or wallpaper in the ordinary way. The building took a quarter of the time which would have been occupied in putting up a brick house of the same size." Sir Charles Ruthen is of opinion there will be a housing shortage for at least twenty years unless some short quick method of building is adopted. He pointed out that of half a million houses wanted before the end of 1921 only 10,000 have been built in the ten months since the armistice. Apart from arrears, 80,000 new houses are wanted normally every year. "At the present rate of progress, and even allowing for a vastly increased momentum in the next few months, we shall never catch up," he said. The Newton houses are to be inspected immediately by officials of the Ministry of Health. Their report will determine the Ministry's policy towards the wooden house.

COMPETITIONS OPEN.

October 15.—*Leamington Spa War Memorial.*

The War Memorial Committee offer premiums of £100, £50, and £25 for designs for war memorial. Mr. H. V. Ashley, F.R.I.B.A., of 14, Gray's Inn Square, W.C., will act as assessor. Further particulars from the Town Clerk.

October 20.—*Oxford: Housing Scheme.*

The Oxford City Council invites architects to submit designs for the laying out of a congested area and the building of cottages thereon, and has appointed Mr. H. V. Lanchester, F.R.I.B.A., as assessor. All designs must be sent to the Town Clerk not later than October 20.

October 31.—*Portishead: Housing Scheme.*

Designs invited for lay-out of block of houses for the Urban District Council. Premiums £50, £30, and £20. Mr. C. F. W. Denning, F.R.I.B.A., and Mr. F. H. Smith have been appointed assessors. Further particulars from Mr. F. H. Smith, Surveyor, Council Offices, Portishead.

December 1.—*Limavady War Memorial.*

The Limavady War Memorial Committee invite qualified architects to submit designs and plans, with particulars of materials, for this memorial. First prize of £25, second prize of £15 for the designs and plans which are the two most suitable, those for which they award premiums to become their property. The awarding of a premium is not to constitute any engagement or undertaking that the successful architect will be employed to carry out the work. All plans and designs intended for competition are to be sent to the hon. secretaries, Limavady War Memorial, Town Hall, Limavady, co. Londonderry, on or before December 1, 1919. Simplicity and proportion will be preferred to profusion of detail and excessive costliness of material. Building in concrete blocks or ferro-concrete should be considered. The total cost of the building (including preparation of site) not to exceed £3,000.

No Date.—*"Daily Mail" Ideal Labour-Saving Homes.*

The "Daily Mail" are offering prizes of £250, £100, and £50 for the best designs for the labour-saving house, which will be one of the features of the forthcoming Ideal Home Exhibition at Olympia in February, 1920. Architects are to submit designs for houses for a professional class family, designed primarily for the saving of time and labour-saving. Drawings to be addressed to the Secretary, Ideal Labour-Saving Home Competition, 130, Fleet Street, E.C.4. The closing date for sending in designs, which was to have been October 4, is indefinitely postponed.

LITTLEBOROUGH HOUSING SCHEME.

Out of the thirteen firms of architects—four from Rochdale and nine from Manchester—who submitted competitive plans for the Littleborough District Council's new housing scheme, Messrs. Butterworth and Duncan of Baillie Street, Rochdale, have been selected to carry out the work. The plans were considered by the District Council, the expert advice of the Housing Commissioner in Manchester was obtained, and they have now been forwarded to the Ministry of Health for approval.

GLASGOW HOUSING EXHIBITION.

The exhibition to be opened to-day by the Secretary of State for Scotland, Mr. Robert Munro, K.C., M.P., at Kelvin Hall, Glasgow, is one of the largest and most important that have been held up to the present time. The Lord Provost, Mr. James Stewart, will preside, and no doubt there will be a large and distinguished company present. Over 130 of the most prominent firms are exhibiting—the floor area of the halls is second only to Olympia, —and in addition there are the drawings and models for which £6,000 was offered as prizes and premiums. Every craft which goes to the production of the perfect home is represented, and four houses, complete in every detail from chimney cap to floor at least—the drainage being omitted—show how the problem may be solved in four different ways.

In the house for which Mr. Peter Fyfe, the newly appointed director of housing for the city, is responsible, the walls are of his tee-shaped concrete blocks made from clinker from the Corporation refuse destructors. The blocks are 16 in. by 9 in. on face by 3½ in. thick, except at the tee arm, which is 9 in. from the face, and to which straps are nailed. This concrete block form of construction is claimed to be cheaper than brick.

Messrs. F. D. Cowieson and Son are responsible for two houses, the larger, a concrete-walled erection, and the smaller a two-apartment and scullery exhibit, entirely of timber sections.

The fourth cottage is one in which Messrs. Speirs, the well-known local contractors, are interested. All show the application of such materials as asbestos slates and sheeting for walls and ceilings, and "Fiberlie" as an alternative finish for both the latter.

The City Corporation show what can be done with gas and electricity to solve the various problems of heating, lighting, and labour saving.

The following are some of the principal exhibitors: The Falkirk Iron Company, Ltd., Falkirk; Winget, Ltd., London; The Carron Company, Glasgow; Falk, Stadelmann and Co., Ltd., Glasgow; Shanks and Co., Ltd., Barrhead; Vulcanite, Ltd., Belfast; Henry Hope and Sons, Ltd., Glasgow; Pinchin, Johnson, and Co., Ltd., London; D. Anderson and Sons, Ltd., Belfast; Leeds Fireclay Co., Ltd., Glasgow; Bell's United Asphalte Co., Ltd., Glasgow; Richmond Gas Stove and Meter Company, Ltd., London; Bitumen Products, Ltd., Bridgeton; MacAndrews and Forbes, Ltd., London; McDowall, Steven and Co., Ltd., Falkirk; John Wright and Co., Birmingham; Tuke and Bell, Ltd., London; and Fletcher, Russell, and Co., Ltd., Warrington.

As the Press view only took place yesterday, 7th., it is not possible to say much of the exhibition in this number, but next week we hope to give a fuller account. There is no doubt that everything has been done to make the exhibition a success, in spite of the railway strike. Most of the heavy exhibits, fortunately, were forward before the strike took place, so that the exhibits, with the addition of cinematographically illustrated lectures and demonstrations, should leave the general public no excuse to remain any longer uninformed on this most important subject.

TRADE AND CR

Reduced Prices for Electric

The General Electric Company announce a continuance of the policy of lowering prices to the public. The list prices of the Osram 25 watt type (gas-filled) lamps are considerably reduced, which is due to a more extensive and economical use of this type of lamp, and the firm's outstanding orders will be executed at reduced prices. Among other things of the G.E.C. are the "Pirell" electric wires and cables, which are reduced at the company's works in accordance with the same care and attention to the elimination of defects as with the production of the Osram lamps at their Smith. Large stocks of all types are held at the London and various establishments.

Concrete Blocks at the Glasgow Exhibition.

At the Glasgow Housing Exhibition Messrs. Winget, Ltd., are showing a concrete outfit, which was responsible for building the "Mystery Port" number of the standing camp country during the war, besides many housing schemes in concrete and slabs. In actual operation seen the standard "Winget" the "Winget" pressure machine, specially designed for light labour housing schemes; the "Winget" spade concrete mixer, with 2½ h.p. engine; the "Winget" No. 1 breaker and crusher; and the "Winget" roofing-tile machine. Daily demonstrations are being given to illustrate the economical features of the system. "Winget" system has been used exclusively on Scottish Local Government housing schemes.

Casement, Ventilator, and Window Fittings.

Messrs. Hayter, Ltd., have specialists of their various specialities include their cam lever bolt, stay, ventilator or fanlight adjustment, their door bolt and casement fasteners, tools or implements are needed for patent lever bolts, which are made of steel in all sizes, with screw end, or adjustable nut, and which are used in the erection, fixing, dismantling of portable huts, furniture fittings; moulds and collapsible concrete, castings, etc.; shop fittings; wall fittings; theatre fittings. The firm claim that the fastest detaching actions of the lever bolt are instantaneous, and that when used with a bolt and nut there is a saving of 75 per cent. of time and labour. "Hayter" casement stay, which is fitted to allow the window to be opened either outwards or inwards, is strong and securely locks the window closed, and the "Hayter" door casement fastener is claimed to be the casement or door up to the firm's unerring precision and makes it possible. It is adaptable to all windows and as such cannot be tampered with from the outside of the window. Among the advantages claimed by the firm for their window fittings are that they are in perfect alignment with the frames of the window. The adjustment is automatic and there are no hinges, no screws, no springs, and no unsightly or pegs; and no cutting away of woodwork is required. The fittings are suitable for metal casements.

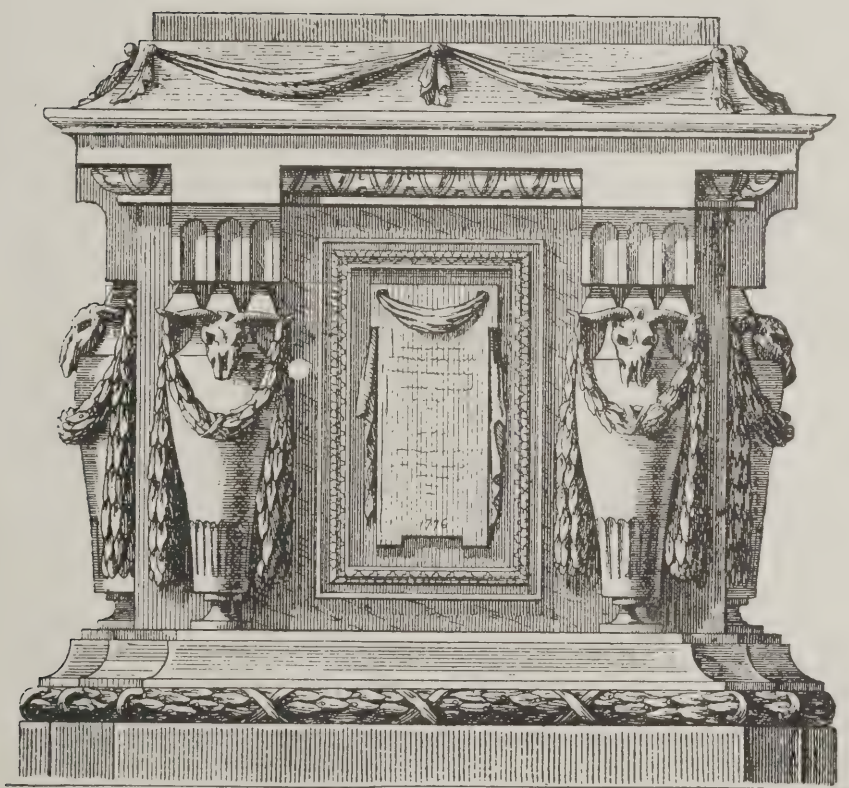
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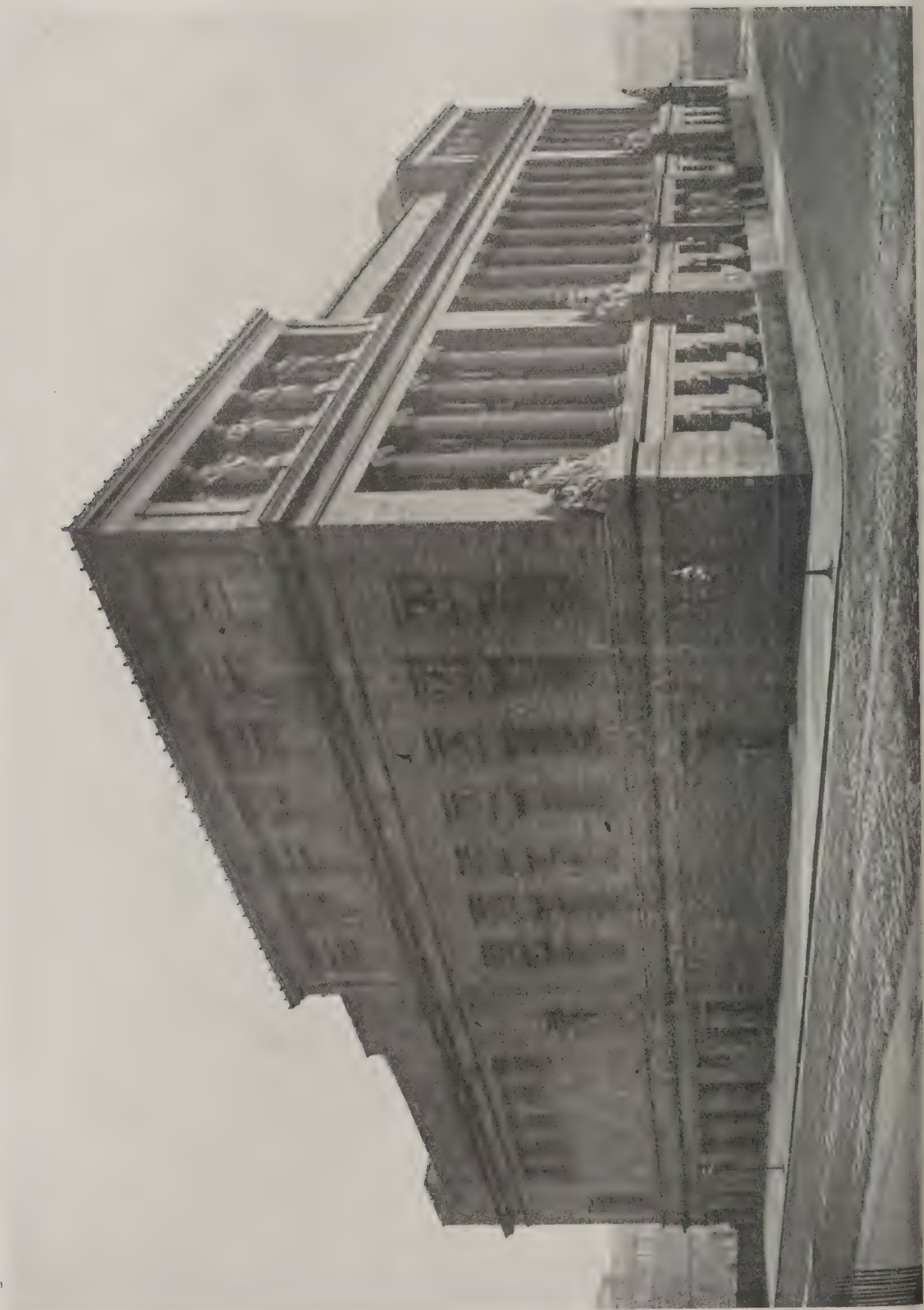
THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



From "L'Art Pour Tous."



THE ARCHITECTS' JOURNAL

Architectural Editor: Professor A. E. RICHARDSON, F.R.I.B.A. Literary Editor: J. FINDLAY McRAE.
Organising Editor: G. J. HOWLING. Assistant Editor: EVERARD R. H. READ.

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Monday, Oct. 15, 1919

Volume L. No. 1293

How to Avoid Strikes

numerous have been the newspaper articles on "Lessons of the Strike," and, naturally enough, they have been almost as perfunctory as a sermon. Few of them have done more than skim the surface of a subject whose ultimate depths no one may sound. Put in the simplest form in which it may be expressed, the great industrial question is, how can strikes and lock-outs be avoided? Especially for no sane employer will wantonly stop the work of men that are bringing him profit; whereas the workers are, rightly or wrongly, credited with a morose alacrity in downing tools, as a relief from the monotony of deadly routine, or as a sort of assertion of independence, without which occasional reminder the employer might forget that the wage-earner has rights as well as duties, and is prepared to defend the former as strenuously as he pursues the latter, even more so.

It is very doubtful whether any industrial scheme, no matter how cunningly devised, can prevent strikes or "break-outs," that one may suspect of being actually pathological in origin—a morbid outcome of unnatural conditions. Similar phenomena, under colourably similar conditions, were common in negro plantations before slavery was abolished, and are still, it is recorded, a feature of life in jails, where ordinarily well-conducted prisoners "break out" periodically into fits of violence and destructiveness. At the very moment of writing, the Fusiliers rioting at Plymouth comes as a reminder that the discipline and routine of barrack life is no much the same sort of outbreak; while the morose dementia of "going fantee," or "running riot," usually attributed to exacerbation of religious fanaticism, is probably of allied character to the morose and semi-hysterical strike, which, however, differentiated by its marked manifestations of "mass-panic," under which excitation the ordinarily steady-minded person seems to change his character completely, "seeing red" and becoming riotous, or, alternatively, behaving with idiotic frivolity.

This pathological explanation is in the main correct, but worth while to seek a spiritual remedy? An ancient theory of disease was that it was caused by devils, of whom the diseased person became the reluctant host. Every symptom is referred to a microbe. Can a microbe of labour unrest be isolated and destroyed? To say, is it possible, by altering the physical conditions of labour, to render the worker immune from insidious attacks, which, by incapacitating him from arduous and continuous labour, reduce tremendously his loyalty to the State, and make him a perpetual menace to his own welfare, which is also its own? This is the aspect which hitherto attention has been almost wholly concentrated. During the war, it became necessary to study the need for greatly improved provision for the physical well-being of the worker, lest he should break down under the strain, or "break-out" in flat rebellion against the State. He had to be kept fit and willing, and every means was promised to advance this object was adopted

regardless of expense, because at all costs the workers had to be kept healthy and contented, and, with the same objects, wages were tremendously inflated. Government, with an army of highly qualified medical officers and experienced factory inspectors at its beck and call, was enabled to establish and make public important facts as to efficiency and fatigue, physical well-being and its effect on output, and the record was so startling and so conclusive that it marked a new era in factory and workshop construction and management.

There must be no retrogression from this advance. It is a moral duty to be humane, even at a loss; but in this instance there is a commercial return upon the investment. It pays to be humane—to see that no overstrain, no discomfort, are unnecessarily imposed on the worker. Factory planning and construction, scientific management, and welfare work, are the strong tripod on which efficiency rests secure—knock away from it any one of these legs and industry must come to grief. But improved conditions of labour—shorter hours, higher pay, more comfortable and more convenient workshops, have not stamped out labour unrest. True, these remedies are in some degree inapplicable to railway workers, but for the moment we are not considering their case: we are discussing that of the workers for whom buildings are specially erected, and who operate within a congested area which must therefore be made, by the skill of the architect plus the special knowledge of the manager, safe and healthy for the worker, and cheerful withal, to keep him from moroseness culminating in fury.

A danger that there is some reason to apprehend with respect to industrial buildings is that when the controllers of one kind and another remove their variously exasperating restrictions, the tremendous rush to put up factories may result in a sad declination from the improved standards that, paradoxically enough, were set up owing to the exigencies of the war. Fortunately, however, hundreds of industrial buildings have been, and are being, planned in advance of the opportunities for execution, and those that have been postponed until the eleventh hour are bound to conform as nearly as possible to the general level of excellence that has been steadily finding favour for the past decade, and includes vastly better lighting, greater rigidity, planning that is more truly scientific, and above all, elevations that are distinctly architectural in character—have, indeed, in many instances, a considerable claim to beauty. Any backsliding from this state of grace will be deeply deplorable, because it must symbolise and signalise a relapse to the old abominable conditions that were, we verily believe, a prolific source of Labour unrest.

For this is a point at which material and spiritual seem to converge. A man does not become a pig because you put him in a sty, but *ipso facto* he is very likely to behave like one, and in particular to acquire the notorious perversity of the animal—the more he is pulled in the

one direction, the more he is determined to strain desperately in the other; nor will he be driven. This must not be thought to be an odious comparison; it is intended to disparage not the inhabitant but the habitation, and the argument is, that the workers must be treated as men, of soul and spirit subsisting. This fundamental and vital fact, which is so obvious that everybody seems to have lost sight of it, seems to be in need of wider recognition and more delicate handling. Generally speaking, it has been persistently ignored. Hence the present discontents. If the builder's labourer were treated more as a man and less as a hodman, he would have by so much the less cause to hate his work and his employer, who is believed by him to be a scornful person without bowels, disdaining to talk, save in terms of oburgation, to any person below the degree of a stockbroker.

Before we can dissipate this deadly mephitic atmosphere of mutual distrust, we have to bring employer and employed together. We have to get them to respect each other, to feel that they have a common object to achieve, a common duty to perform, and that the only possible way of lifting the industry out of a particularly deep and muddy rut is for Capital and Labour to pull together harmoniously. Some will deem that that hoary expression Capital and Labour is not quite apposite to the argument. Perhaps they are right. Perhaps there should be some sort of coalescence. Hitherto they have been regarded as opposing entities, though, of course, they are essentially nothing of the sort. It is their estrangement, their suspicious distrust of each other, that is the cause of all this domestic unhappiness, this Labour unrest. A house divided against itself cannot but fall; and so long as the building industry, for instance, is plagued with ceaseless jangling and brawling, so long will it be subject to appalling waste, which may culminate in national calamity.

In America, Labour troubles have assumed the utmost gravity, not altogether because there the employer holds himself haughtily aloof from the workers—although that element certainly enters into the trouble, if not quite to the same degree as it does here—but mainly from "bossing" with a difference. In the States, the

principle of collective bargaining is but feebly stood and the boss is apt to become tyrannical and cratic. Consequently the men want a better system according to latest advices, are in a fair way to for a cablegram from Washington last week announces a proposal to set up a Board comprising equal numbers of employers and employed, representing the principal industries. When this Board comes to a decision, the matter would be referred to a general Board to be appointed by the President of the United States. Evidently the labour situation on the other side of the Atlantic had become intolerable, the suggestion for a remedy seems to have been inspired by our building trades Conciliation Board, the later "Builders' Parliament."

But no matter how perfect the machinery of conciliation, it is certain to break down if the Ok is allowed to become chief engineer. Bad terms on both sides seems to have been the controlling factor in the negotiations which led, just before the war, to the announcement of a general lock-out in the building trade; and from similar tactics a similar result was quite confidently anticipated. Until masters and men (odious but unavoidable expression!) purge their hearts of much perilous stuff and set about conciliation in a purely conciliatory spirit, we must continue to slide down the steep slope to Avernus.

That the whole question of the reorganisation of the industry has been revived in an acute form by the recent strike is possibly fortunate: out of evil comes good. The whole nation became involved. Everyone became personally and intensely interested, and once industrial problems were lifted clean out of the deep and narrow runnels in which they are wont to stagnate. As a direct consequence, a response to the British Minister, Mr. George N. Barnes, has been given over to take part in the International Industrial Congress which is to take place in Washington. The development gives good hope that the general industrial economics will be considerably broadened and will be raised high and dry out of the petty domestic squabbling, in which mere ten per cent. are immensely too influential. It may mean the dawn of a new era.

Notes and Comments

Alleged Vandalism at Westminster Abbey.

THOSE who are solicitous for the preservation of London's ancient monuments intact have been greatly perturbed of late to see the wall to the north-west of the Jerusalem Chamber at Westminster Abbey undergoing extensive repairs, and that these are being done with courage that some deem to border on rashness. The wall seems to have been raised a foot or more, and is crowned with an exiguous coping. It has been complained that this treatment alters the character of the wall, obscures the lower extremities of the windows of the Jerusalem Chamber—obscures them in the double sense of darkening the interior of the chamber and concealing the sills from the observer in the street—and is out of scale with the rest of the front. The last charge is negligible, for the effect alleged is less real than imaginary; and the first seems to be based on the erroneous supposition that it is a mistake to finish off random coursing with ashlar; whereas the mediæval masons were wont to border their random-coursed or rubble walls with quoins and tops of ashlar, to give an appearance of strength and finish. The wall of the chamber itself is similarly treated. There is no doubt that the new stonework has a raw and garish appearance which contrasts very vexatiously with the old material, which, however, was crumbling to dust. Undoubtedly repair was urgently necessary, and we cannot see that it has been done after the manner of the Vandals. It is

always a pity when the cry of vandalism is raised out due provocation: for the sequel to the false cry of "Wolf" is as natural as it is distressful.

The Jerusalem Chamber and Other Excrescences

To many admirers of the Abbey, the wall that has been repaired, and the Jerusalem Chamber behind it, are disfiguring and untidy excrescences. We do not remove them away, because their inveterate associations with the privilege of sanctuary; but, all the same, they ought not to have been put here. It was towards the end of the fourteenth century that Abbot London built the Jerusalem Chamber, either as a withdrawing room for himself or as a guest-chamber. Henry IV. died there; and it will be remembered that Shakespeare turned this incident to rather dramatic account. After his swoon, Henry says: "Doth any name particular belong Unto the place where I first did swoon?" Warwick replies, "called Jerusalem, my noble lord." Whereupon the king exclaims, "Laud be to God! even there my life shall end. It hath been prophesied me many a year ago that I should not die but in Jerusalem; Which vainly I supposed to be the Holy Land. But bear me to that chamber; there I will lie. In that Jerusalem shall Harry die." Surely Shakespeare could not have written such sorry stuff; and his journeyman must have perpetrated it. Shakespeare, however, was very fond of introducing prophecies that "palter with us in a double sense."

the body of Joseph Addison lay in state in the Chamber. Congreve and Prior were given a similar honour. The chamber has been used as a chapterhouse. It is also the meeting-place for the convocation of the province of Canterbury. It was here that the Bible revision committees did their delicate work. Another Westminster Palace—another one which could be swept away without the slightest compunction—is the modern building which completely ruins the front of the fine fifteenth century Greycoat School. As if this ghastly stupid disfigurement were insufficiently obvious, there have been allowed to grow up in the courtyard trees and shrubs which ruin the view of the wings of the old building. These should be removed without remorse.

The Search for Cheaper Houses.

Charles Nicholson, F.R.I.B.A., has written to the *Daily Mail* "one of the very few well-informed and impartial letters that have appeared on this subject. It appears, lived in and also built a good many wooden houses in his time, and he is fully aware of the advantages and disadvantages of that method of construction, but he feels that a word of caution is necessary. 'A wooden house the quality of the timber used is,' said in effect in our article on the subject a fortnight ago the 'stunt' had become clamorous for attention. We are here quoting Sir Charles Nicholson—of great importance; the use of sappy or unseasoned timber is bound to lead to trouble in a few years' time, my experience as an architect has led me seriously to doubt the durability of certain classes of timber, especially American stuff, in the English climate. 'Oak,' he continues, 'and in some circumstances sound Baltic and Russian timbers, are reliable, but at present almost prohibitive in cost, and most difficult to obtain of proper quality for permanent building. Second-hand Government timber, he understands, is much inferior stuff. Then comes confirmation of our opinion we expressed that the comparative cheapness of the wooden house had been greatly exaggerated. 'My experience is,' writes Sir Charles, 'that in certain localities a good timber building is very little more expensive than a brick or concrete one, at any rate in normal circumstances. And as bricks can be made faster than timber, even if seasoned, I doubt whether timber construction is likely to be economical in the long run, much as I like to see a more intelligent use of local building materials and old-fashioned building methods, and to get rid of the stupidity of the by-laws under which we live at present.' From these absurdly restrictive measures we are to suffer no longer, the happy release of them being provided in a circular which the Ministry of Health will shortly publish. We notice, too, that Mr. Walter Reynolds has entered on the London County Council agenda a motion requiring the Housing of the Working Classes Committee to consider and report on 'the practicability and expediency of wood construction for cottages and houses, having regard to the importance of providing additional housing accommodation with the least possible delay and at a reasonable cost.' In all this correspondence on ways and means of cheapening house-building, too little—indeed, nothing—has been said about proprietary sub-standard materials, which have been ignored because, obviously, it is felt that they should be brought into use in another way.

"Punch" and Pisé de Terre.

Pisé de terre and similar earthworks do not seem to be getting very much enthusiasm among architects, what may be the case among rural economists and agriculturists of various other denominations. Most of our architects with whom we have conferred on the subject dismiss it with a wry face and a shrug of the shoulders, as if the subject were destitute of architectural interest. Public opinion on the matter is no

doubt reflected with Mr. Punch's customary fidelity in this joke in the current issue: "*Perfect Stranger*: 'I think the Navy's absolutely priceless. They fought, they pumped out the coal-mines, and now I see they're carrying letters and parcels. What'll you do next?' *Seaman Gunner*: 'The housing problem. 'Aven't you heard? In three weeks we're bringing a cargo of ready-made mud 'uts from Zululand.'" This rather seems to wear the appearance of badinage, and (Mr. Punch's mirror giving usually so faithful a reflex of public opinion) may be taken as a fair index to the general opinion of the frantic attempts of one kind and another that are being made to cheapen housing.

Wooden Houses in Excelsis.

It is stated that a housing scheme that the Canadian Government now have in operation refers chiefly to wooden or frame houses. A four- or five-roomed house, it is said, costs not more than £600, including the land and the cost of roadmaking. This price becomes very difficult of belief when it is added that "far from being inferior to English brick houses, such working men's houses in Ontario nearly always have hardwood floors, oak doors, electric light, electro-plated bath fittings, and other conveniences seldom seen in a working man's home in England." Very seldom indeed, for any of these sumptuous details, and never all at once. Unless it is admitted that this is a pre-war price, we shall take leave to doubt its authenticity. Timber is doubtless cheaper in what have been facetiously called the "lumber regions" of the Dominion, but all the other items, including labour, are probably dearer. At any rate, we share Sir Charles Nicholson's opinion that in the long run, and all things considered, the wooden house would be but little cheaper than that built of brick.

"A Secret of Bad Building."

A writer in "*The Times*" has discovered "a secret of bad building." In comparing seventeenth or eighteenth-century building with that of the present day, to the serious disadvantage of the latter one need hardly say for if this conventional line were not taken it would hardly be possible to make the reader spring smartly to attention, the revealer of secrets has been "struck by the opulent scale and proportion" of seventeenth or eighteenth-century details as compared with those of "the most costly building of the same class erected in the present day." Why? asks the critic. "Because, in a word, the present-day building is erected 'by contract'; the seventeenth-century building was not." Can the critic lay his hand on his heart and declare that to the best of his belief this is the whole truth of the matter? Surely not, after he has reflected that the ascertainment of strains and stresses with anything like a scientific approximation to accuracy was an achievement of the early nineteenth century. When sizes of beams and weights of loads had to be guessed rather than calculated, builders were careful to be on the safe side, and made their beams and bresssummers nearly twice as bulky as they need have been if the builders had been scientifically trained. That is the prosaic reason why "the thickness of the walls, the depth of the window recesses, the boldness of the mouldings, the depth and projection of the cornice seem to express the taste and aims of a generation of more ample and vigorous life than our own." Our explanation of the change is much less grandiloquent—namely, that the bulky scantling was partly cautionary and partly a matter of imitation. It is apparent, therefore, that the writer, in his haste to report his discovery, revealed only half the great secret. No one, however, will have the hardihood to challenge his contention that under the tendering system the quantities are cut very fine, and that the prime-cost system, as we may call it, although the expression was unknown until comparatively recent years, has many advantages, but would certainly not result in the too, too solid bulk of the seventeenth-century bresssummer, if only because of the scarcity and dearness of timber.

Architectural Causerie

IN these days of trouble I can imagine nothing more likely to cheer the profession than the fact that individual members and their assistants are doing their best to carry on, although they realise that building as a whole will not be in full swing until the early part of next year. I am not in the least optimistic in making this forecast, for the volume of work held up during the past five years is beyond estimate, and includes every type of building, from railway offices on a vast scale to myriads of houses.

A week or so ago I referred to the charm of the small shop, mentioning how architects especially found such relics of the past congenial to their tastes. It was a matter of delight to me to encounter Sir Reginald Blomfield at Fribourg's shop in the Haymarket the other day, a very appropriate setting for an historian of eighteenth-century architecture. Sir Reginald informed me that he was extremely busy with designs which he hoped to see carried out directly things improved. Undeterred by the railway strike, Sir Reginald had adopted the bicycle as a means of transport between Fribourg and the Temple. How he has managed to retain his youthful energy during years of practice, combined with the production of his books, is a matter beyond ordinary comprehension. Speaking of the bicycle, it appears that a number of architects have found a machine to be indispensable lately. Mr. Quennell made his way to town from Berkampsted on the first day of the strike, another architect pedalled up from Sussex, and a small contingent used the roads from Golders Green. For my own part, I had to charter a Ford, for my road to Tothill Street lies through three fair counties. Quite a return to the days of Telford, when architects made their own timetables for posting, although some, like James Wyatt, were fortunate enough to own a private travelling carriage. Wyatt met his death on the road near Marlborough on September 5th, 1813, through the overturning of this identical chaise.

Turning into Whitehall two or three days ago, I noticed Mr. Ingleson Goodison casting a critical eye at the detail of the latest buildings. Together we investigated Dover House, speculating on the skill of Henry Holland, and admiring the tasteful planning of the portico and rotunda. Mr. Goodison has lately been responsible for data in connection with the restoration of the gardens at Hampton Court to the original plan. This task, together with other studies of an official nature, relating to eighteenth-century Government buildings, requires taste and judgment, and listening to Mr. Goodison's account of the giants was a rare and refreshing entertainment. I gathered from our talk that more attention is likely to be given by those in the know to the achievements of William Kent. Regarding the threat to Devonshire House, Mr. Goodison called upon Jupiter for lightning. It does seem remarkable that none who profess to hold the amenities of London dear have raised a protest against the spoliation of one of the best features of Piccadilly. In a more enlightened country Devonshire House would have been allocated as an institute for British architects. Just imagine such a home of architecture placed prominently before the gaze of the public; there would be no further need for the inferior cabinet in a corner of the Royal Academy.

The new town of Panshanger, on the Great North Road at Welwyn, which I dealt with in these columns last month, is, I am thankful to say, being schemed by Mr. Crickmer, who has given a synopsis of his ideas to Professor Adshead. Many difficulties have yet to be overcome, not the least being finance. Quite a flutter was caused in the neighbouring villages when the

decision of the London County Council was made. Satellite towns in these days are very much to the

At the Architectural Association preparatory being made to train an unprecedented number of students, the majority of whom are back from the Colonies. The builders are making splendid progress with the reconstruction of Leverton's houses from the time of Mr. Robert Atkinson, who, by the way, is due to visit London from America. Mr. Atkinson is imbued with the necessity of being thoroughly acquainted with the first-hand knowledge of what is going on in the Colonies before he finally settled the details of the Parthenon; if so, history is proving its reliability. Mr. Atkinson's sympathies are traditional, but he looks upon history merely as a crutch to an end, and uses a classic crutch because he finds it the most convenient support, but he intends to teach his pupils to dispense with it at the proper time.

According to the most recent statements in the Press, we are soon to have experiments in the reconstruction of framed houses. As usual, information is reaching the public somewhat late. Three years ago there was an article in the "Burlington Magazine" pointing out the possibilities of modern construction for house cottages, and years before that architects were turning their eyes to the weather-boarded walls of Keston, Essex. Mr. Marchant, who lives at Dartford and practises in Bedford Square, has long made the use of this form of building his speciality, and I hope to see some of his designs in the near future. A number of architects are making brief visits to the Continent. Mr. W. H. Ward is in Switzerland, and my friends are at present in Florence digging up valuable information that has apparently attracted the attention, and Mr. Bradshaw is completing his report at Rome, so that next year some innovations are promised.

While the larger works remain in abeyance, the new buildings for the Underground Railway at James's Park, many architects are engaged on the design of war memorials. I am glad to say that attention is given to such features of craftsmanship as roods for country churches, lych gates, crosses, shrines, and organ cases. Mr. Scott, assistant architect and engineer of the London and South-Western Railway, has designed one of the entrances to the new station at Waterloo in the form of a monument to those in the service of the company who made the great success. It has been my pleasure to go through the plan in the engineer's office and to see what is being done in this terminal attractive.

All the architectural schools are showing activity in preparation for the winter campaign. There is a temporary shortage of drawing-boards and squares owing to the number of students registered for training. Liverpool is very much to the fore in the attractive programme. At the London University Professor Donaldson's drawings and diagrams are to illustrate the forthcoming lectures. A special session is to be arranged by Professor Adshead for the students taking a course of town development, and it is hoped to establish a permanent architectural museum in one of the rooms.

Later on we shall see something of the excellent being prepared by Mr. Arthur Henderson depicting the architecture in Byzantium at the height of that city's splendour.



"Zinovievo," near Petrograd.



Villa of the Duc d'Oldenbourg.

TWO EXAMPLES OF RUSSIAN TIMBER HOUSES.

en my privilege to see this artist at work in his at Lincoln's Inn, and to go through notes and s made in Constantinople. No one will question itability of the Byzantine motif for modern ns of church design, McKim's work in this regard of unusual interest. Mr. Henderson showed me n of his own fashioning for a new church at ia, which he submitted in competition some years Unfortunately the award was given to a German. ct that a German architect acted as assessor ly lessened the chances of a Briton; it was all in eme of Kultur.

* * * week I have allowed my chit-chat to concern the e things going on around us. Seldom a day but what I meet a score or so of architects. This to build a church, that one is to write a book, r is keeping a friendly eye upon the graves of s in the East; yet another is to aid in the develop- of a village. There is unabated and feverish y, for the new order of things provides many ns for designers to solve. For my own part I ntertainment in peeping over the drawing-boards friends, like a good-natured busybody, reserving enings for spiritualistic seances with the shades of

former architects, penning my notes at Tothill Street and experiencing chagrin, quod avertat Deus, when such matters as the postponement of the Ruskin Centenary Exhibition are announced.

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This being the ninth day of October, with my Lord to the train, and so through the countryside to Pancras, where no coach to be had, he and I had perforce to walk between the walls of Bloomsbury, no man knowing at what hour he would return to his country seat. This day I was resolved to dispel the damp that is coming over my mind, and to make remonstrance upon those who would upset the art of building, for many affairs need conference. To the Institute, which has lately been cleaned and painted, and all the books dusted and ready for an infinity of business, even the attendance book being opened in expectancy of students. Then to the University to hold forth on the applicability of the Greek spirit in building, and to judge designs. About six in the afternoon I did complete the third of a series of studies for a chimney-piece, then fell to my correspondence, which is in arrears, particularly that due to my friends in America, and so to dine and return to sleep in my camp bed at the office; for which mercy God be thanked.

AERO.

Some Notable Glasgow Buildings

(CHARLES GOURLAY, B.Sc., A.R.I.B.A., F.S.A.Scot., Professor of Architecture and Building, Royal Technical College, Glasgow.

of the important Housing Exhibition which is now being held in Glasgow, and of which an account is given on page 492, drawing notes on some of the more important of the City's buildings (specially prepared by Professor Gourlay for this issue) will be read with peculiar interest. All the buildings mentioned are antecedent to the present century.

 GLASGOW, like Rome and Constantinople, is a seven-hilled city; and although large tracts, particularly in the south and east of the city, are comparatively flat, yet its hilly configuration aids materially in giving it that picturesqueness which is one of its main characteristics. Further, Glasgow has had a remarkable of talented architects, whose works give the city sect of dignity and solidity. One of the problems Glasgow's architects had to solve was the designing dings to suit inclined sites; and in doing this they displayed great ability.

appropriate that a church should occupy the or position in a city; and, just as St. Peter's is the ctural crown of Rome, so is Glasgow's venerable ral the architectural crown of the great city by de.

parish church of St. Andrew, in Glasgow, is the t fully-developed Renaissance church of the nth century in Scotland. It was founded in 1739 ished in 1761. Its architect was Allan Dreghorn, said to have based his design on the church of St. in-the-Fields, London, by James Gibbs, dating 726, but St. Andrew's is on a much smaller scale t. Martin's, and there are many differences n the two churches.

instance of a well-placed public building is the Exchange, the finest Classic building in Glasgow, 1829-30 from designs by David Hamilton. It in a square, having buildings of Græco-Palladian n north and south sides, while on the west there is ade, with hexastyle portico, of the Royal Bank of d, which was designed by Archibald Elliot, an rgh architect, who based this work on the heion, but varied the detailing of the Greek gs to suit the northern climate. On each side Royal Bank there are beautiful arcaded entrances from Exchange Square to Buchanan Street.

ng the buildings in the centre of Glasgow dating out the middle of the nineteenth century are the

fine County Buildings (1842) which serve several public purposes, and form a large block surrounded by broad streets. They were designed by Clarke and Bell in the Greek style.

The Western Club, in Buchanan Street, dating from 1824, was designed by David Hamilton, but was extended along St. Vincent Street by John Honeyman. This building is massive in treatment, and has a grand scale, which befits a club in a large city.

The Faculty Hall, St. George's Place, designed by Charles Wilson in 1856, has much beauty in its composition and detail. Its lower storey is rusticated, and its upper has attached coupled columns Venetian Renaissance in type.

David Bryce, of Edinburgh, was architect, in 1869, of the Junior Conservative Club and Scottish Widows' Fund premises at the corner of Renfield and West George Streets, an excellently designed and detailed block in the Italian style.

A work of the Greek Revival period is the Custom House in Clyde Place, built in 1840—a small and simple building in the Greek Doric style, by George Ledwall Taylor, of Taylor and Cressy, authors of "Architectural Antiquities of Rome," 1821-22.

The greatest architectural genius produced by Glasgow was Alexander ("Greek") Thomson. During the Greek Revival period most buildings were more or less close copies of Classic buildings, but this cannot be said of one of Greek Thomson's designs. He did not copy; he assimilated the true spirit of Greek architecture, and gave it individual expression. The church in St. Vincent Street, Glasgow, erected about 1860, shows Thomson to have been a highly endowed genius. His block of shops and warehouses known as the Egyptian Hall, in Union Street, Glasgow, though clothed in what is considered to be a most intractable style for modern purposes, is obviously a work of genius. Its large window space indicates its practical nature, and its huge cornice binds the design into a magnificent whole.

The older type of Glasgow tenements, or rows of flatted houses, have quite a dignified treatment in eleva-

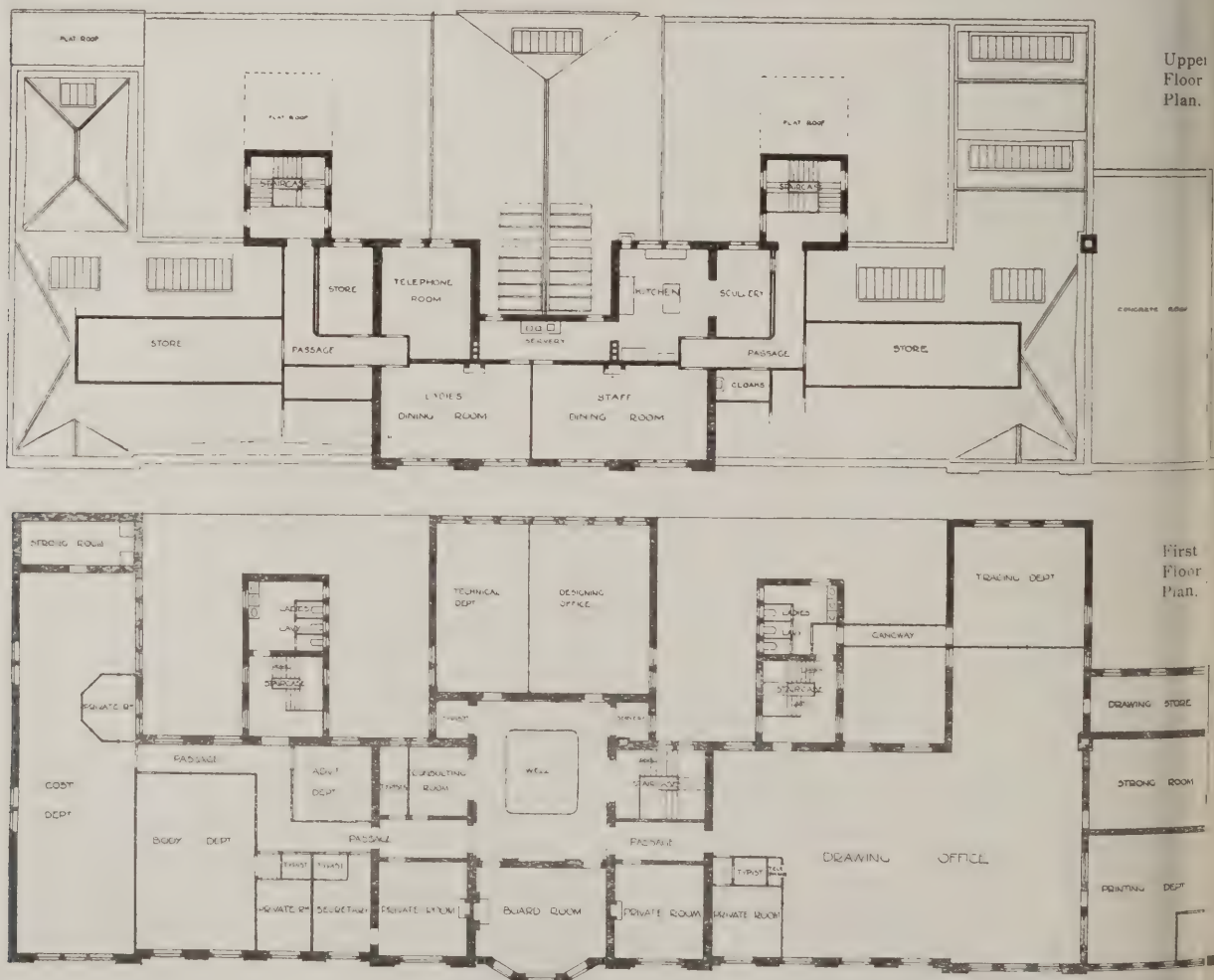
tion, which, though very varied in detail, may be described as consisting of the shop floor at ground level, or a rusticated storey where shops do not exist; then the windows of the first floor dwelling-houses are enriched with architrave, frieze, cornice, and pediment; those of the second floor have architrave, frieze, and horizontal cornice, and those of the third, or top storey, have only the architrave. Above all is a cornice more or less massive, sometimes finished with a balustrade. With such powerfully horizontal lines in the tenements the design of churches adjoining them demanded special consideration. If these have towers and spires such features are generally placed next the tenement, with the evident object of breaking the horizontal lines, and thus allowing the architect more freedom to deal with the design of the church itself than would be the case if the body of the church were placed next the tenement. No better example of this practice could be found than Blythswood Parish Church, Bath Street, built from the design of an English architect named Emmet, about 1852.

The latter half of the nineteenth century saw the erection of several large and important buildings in Glasgow. The chief are the Municipal Buildings, which, dating from 1883-9, occupy the eastern side of George Square. The designs of William Young, of London, in the fully-developed Italian Renaissance style, were selected in competition. In plan the buildings occupy a nearly square block surrounded by streets, but having a large central quadrangle. In outline the mass of the Municipal buildings is quite imposing. There is a pavilion at each corner of the block and small turrets between these, all crowned with stone domes. In the main front to George Square there is an Order to each of the four storeys, and a large pediment in the centre, behind which rises a large tower and spire. The

principal defect of this façade, and indeed of the design, is the large number of Venetian windows it contains. These were apparently used because wide intercolumniation led to square-shaped bays which could not be satisfactorily treated otherwise. The bays are too wide is also seen from the stonework which has been felt in dealing with the great balustrade between the windows of the ground floor storeys in the main façade, which is too treated for the light Corinthian coupled columns rest upon it. The best of the four external elevations is that to George Street, in which the opportunity taken of expressing the large and handsome Blythswood Hall, which is a finely-proportioned interior, with fine frescoed panels on its walls. The entrance to the marble staircase, council hall, and the series of rooms are all magnificent, and worthily house the authorities of a great city.

Directly opposite the Municipal Buildings in George Square is a fine block, accommodating at its end the Bank of Scotland, designed by Robert Chambers, erected about 1869. This design is typical of Glasgow business architecture, which generally consists of a rusticated basement, over this the main storey above a more simply treated storey of less height, terminating in a great cornice and balustrade. There is a dependence on columns, and the general effects are Florentine. This design was continued along the side of the square, the central part having been built out by Campbell Douglas and Sellars, and the part to the right, which forms the Merchants' House, and is built by a tower at the corner, by John Burnet, whose son, John J. Burnet, added upper storeys to this part years ago.

The St. Andrew's Halls, near Charing Cross, erected about 1873 by Campbell Douglas and Sellars,



PLANS OF THE NEW GENERAL OFFICES OF THE ALBION MOTOR CAR CO., LTD., SCOTSTOUN.



NEW GENERAL OFFICES OF THE ALBION MOTOR CAR CO., LTD., SCOTSTOUN.

ANDER N. PATERSON, M.A., A.R.S.A., F.R.I.B.A., AND D. MCKAY STODDART, LICENTIATE R.I.B.A., ARCHITECTS.



NEW GENERAL OFFICES OF THE ALBION MOTOR CAR CO., LTD., SCOTSTOUN: FIRST-FLOOR LANDING.
ALEXANDER N. PATERSON, M.A., A.R.S.A., F.R.I.B.A., AND D. MCKAY STODDART, LICENTIATE R.I.B.A., ARCHITECTS.



GLASGOW UNIVERSITY: PRINCIPAL FRONT.

Glasgow, coupled with Cunningham, of Liverpool. They form a fine block of halls and the façade to Grand Street is considered to be the masterpiece of James Burns. It is a work of genius, based on Greek Classic, chiefly from the Erechtheion, applied with great skill, showing evidence of Greek Thomson's influence. The Ionic Order is specially suitable for use between the wings or responds, and it is correctly used in this front, which is divided into three parts by great projecting antæ, between which runs the colonnade of the Ionic Order. The columns stand detached from the wall, and the shadow cast by the western sun gives a striking effect upon it. At the top there is a long uncarved panel in the central section, but the wings have Caryatidæ figures attached to the wall—a better use of this feature than is made in the Erechtheion itself.

The main buildings of Glasgow University on Gilchristhill were designed by Sir George Gilbert Scott, and completed about 1867. The plan is composed of two quadrangles having classrooms, museum, library, and other rooms, lighted by windows on each side, so that when these were opened a blow-through would take place which would freshen the air in the rooms. Between the two quadrangles is the Bute Hall, for graduation and other ceremonies, by John Oldrid Scott, with a vaulted auditorium underneath it called the Cloisters, which is a fine feature. One side of the western quadrangle has not yet been completed, and it is proposed to erect here a

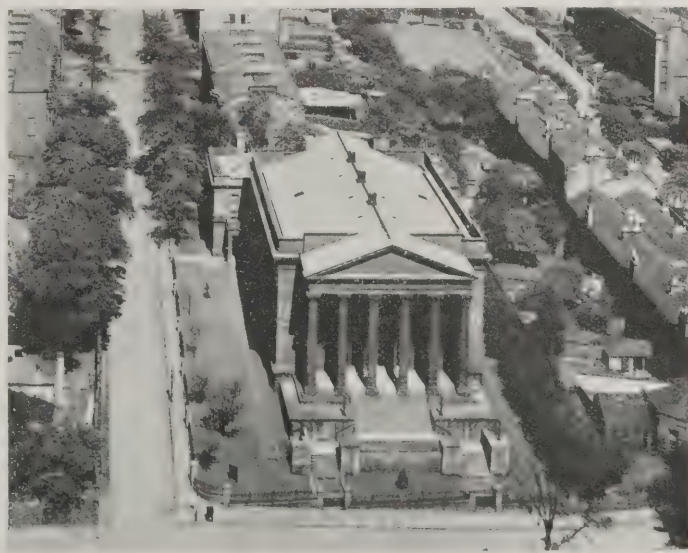
chapel and other buildings as a War Memorial. While the whole detailing of the University Buildings is good, being distinctly English Gothic, with a Scottish flavour given to it by the use of turrets, crow-stepped gables, the thistle appearing in the carving of the main entrance, and in other ways, yet it can hardly be said that the style is very suitable for its purpose. Indeed, the modern additions for the study of botany, engineering, physics, and several branches of medicine are more appropriate, and fit more kindly to the requirements of a University. The site is a grand one, on the top of a hill rising from the river Kelvin. This hill-top was flattened to receive the buildings, and much of the stone used in erecting them was quarried on the site between the building and the river. This quarry was filled up and the ground levelled into rising terraces. The central tower of the main front to Kelvingrove Park is solid and massive, and it is capped by an open traceried spire, having a total height of about 300 feet.

Directly opposite the University to the northwards, in University Avenue, stands Wellington U.F. Church, an excellently designed building in the Classic style, with a tall Corinthian Order, designed by T. L. Watson about 1883. The site sloping downwards to the Avenue gave the architect the opportunity of designing an arrangement of steps leading to the front entrance which is admirable.

The Great Western Road, extending westwards from



CITY CHAMBERS, GEORGE SQUARE, GLASGOW.



WELLINGTON CHURCH, FROM TOWER OF UNIVERSITY.

Photos: Annon.

St. George's Cross, is at first bounded by tenements, with shops on each side, but it has three important churches. The first to be met in passing westwards from the city is St. Mary's Scottish Episcopal Cathedral, a very fine Early English church, built 1870-71 by Sir George Gilbert Scott and J. Oldrid Scott; then, secondly, Woodside Established Church, dating from 1883, by Henry Higgins, having a beautifully proportioned interior, with apsidal end; and, thirdly, Lansdowne U.F. Church, with a slender tower and spire, built about 1863 by John Honeyman.

By Kelvinbridge, Hillhead is entered with its shops and terraces, which reach to the Botanic Gardens; while beyond this point the road develops as a magnificent boulevard, with trees on each side and fine terraces. The finest of the latter is that known as Great Western Terrace, which, though designed by Greek Thomson, was carried out after his death. It is a greatly admired design, dignified and stately, and well worth a journey to see. Quite near to this terrace is Kelvinside Academy, by Campbell Douglas and Sellars, a finely proportioned modern Classic building, with an elevated tetrastyle portico of the Ionic Order, similar to the Ilissus example.

Glasgow is so extensive that it is impossible within the scope of a single article to dwell upon every notable building antecedent to the present century. Enough has probably been said, however, to show that Glasgow has much beautiful architecture which will repay study by those interested in the development of a commercial city.

(To be concluded.)

The Plates Described

Wooden Houses in Russia.

RUSSIA provides the architect with some excellent examples of wooden houses. The two illustrated in this issue show the application of timber to country mansions of considerable size.

Albion Motor Car Co.'s Offices, Scotstoun, Glasgow.

These offices form the central front portion of the extensive buildings occupied by the Albion Motor Car Company, the manufacturing sections being erected in ferro-concrete, three storeys in height, on the "unit" system. Reinforced concrete has also been utilised, in

combination with other materials, in the office block in the soffit of the recessed main entrance, the lintels, other parts of the works gateway, and the trusses of the central hall roof. In the main, however, the construction is of brick, from Bothwell Park, of a red tone, with dressings of Leoch stone, silver grey colour; while the roofs are covered with green V. morland slates. The floor of the central hall and steps of the main stairs are finished in Terazzo in three colours. The finishings generally are of cy. (poplar), except for the board room, where oak is used. The plans explain themselves, the main department being approached direct from the central hall on ground and first floors, with the private room of each of the four acting directors in immediate touch with his particular section. These rooms, like the board room, open on to the main street, and have a south frontage and an open outlook to the River Clyde.

Plans of No. 36, Belgrave Square.

These plans, which show a typical early nineteenth century house before and after alterations, should be studied in conjunction with the article by Messrs. Morris and Parnacott, which appears on page 483. As the *Journal* was first in the field to suggest the wholesale conversion of houses into flats as a hitherto neglected expedient in relation to the housing movement, we have been naturally much gratified to find that the suggestion has been officially adopted. It is to Messrs. Morris and Parnacott that credit is due for the skill and energy which have shown in giving direct practical application to the idea. As our readers are aware from the articles already contributed to the *Journal* by these gentlemen, they have revealed a wealth of good architecture in houses which are either disfigured by inappropriate uses or are falling to decay for want of a little attention. To convert them into flats is to achieve the twofold object of serving the art and the housing movement.

Sir Charles Ruthen's Cottages.

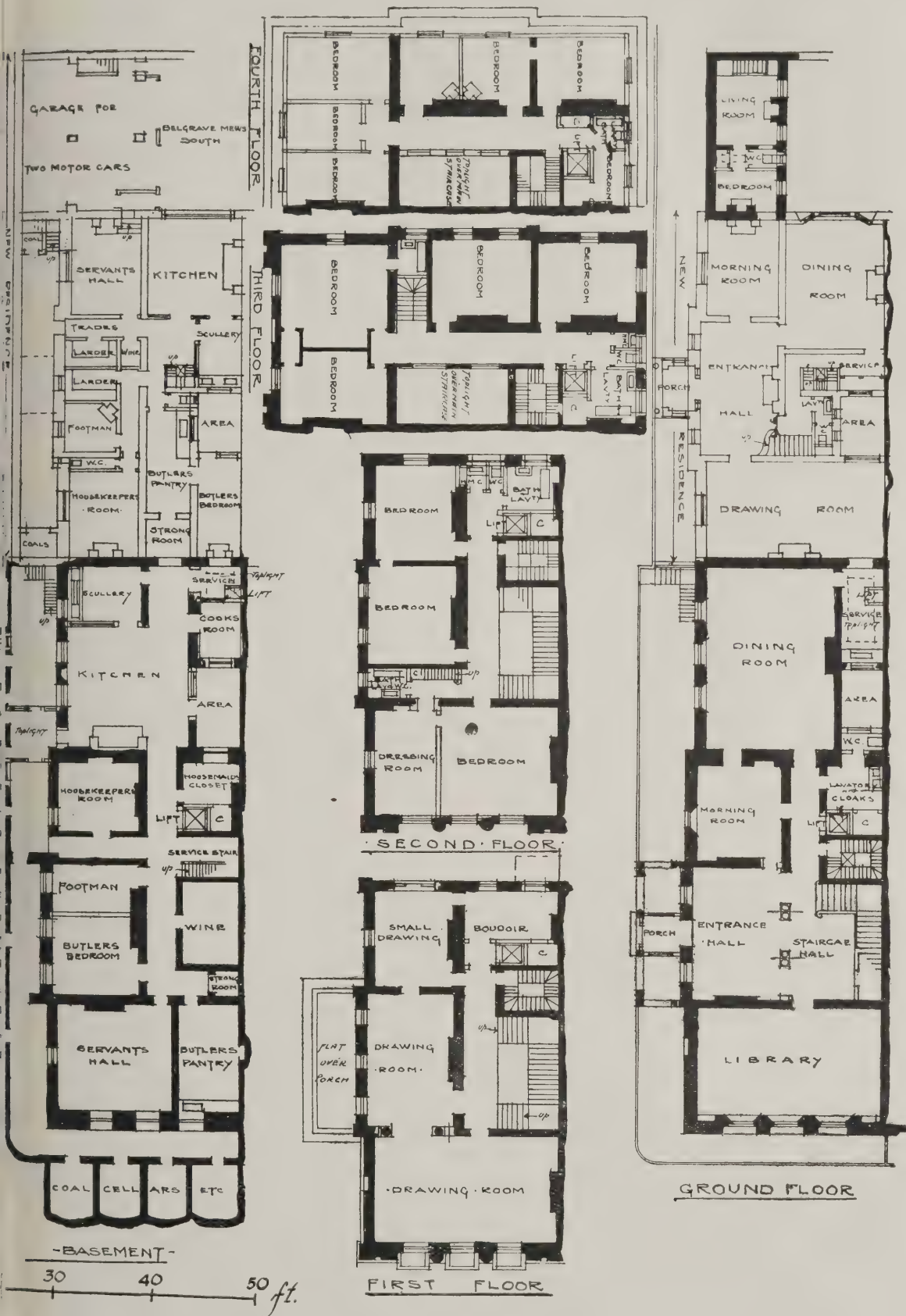
Perspective views and small plans of Sir Charles Ruthen's cottages at Newton, near Swansea, were given, together with a description, in our issue of October 1. We now have pleasure in showing plans, elevations, and sections of these houses, which, Sir Charles Ruthen claims, fulfil all requirements, and can be erected both speedily and economically.



INTERIOR OF LARGE HALL, ST. ANDREW'S HALLS, GLASGOW, BEFORE ALTERATION.



PLANS SHOWING ADAPTATION OF No. 36,
G. LL. MORRIS AN
(Existing walls shown black, struct



E, LONDON, TO MODERN REQUIREMENTS.

OTT, ARCHITECTS.

work in outline. See page 483.)

Modernising an Early Nineteenth-Century House*

By G. LL. MORRIS AND H. W. PARNACOTT.

RAVE SQUARE, in which this house is situated, is associated with John Cubitt and "formed part of a scheme of development by which a street was little better than a lane into one of the most remunerative fashionable quarters of London. effected by the simple means of pulling down the clay which formed the first surface, burning it into bricks and then laying on the substratum of gravel." The house was begun in 1825, the four wings appearing to have been built by the design of George Basevi, detached houses at the angles designed by Hardwick and Kendall. It is one of the finest squares in London. It is dignified and homelike, the middle of each side being treated by a columnar treatment. The squares near at hand, and some of the fields in the districts of Paddington, and Maida Vale, the fronts of the houses are faced with stucco. It is stucco has serious limitations, for it is carefully examined, repaired, and painted at regular intervals the stucco becomes shabby and soon wears a sad and forlorn appearance. Even in Rave Square, one of the wealthiest in London, unmistakable signs of decay are noticed. The maintenance of stucco-fronted dwellings, both here and in the other districts, is a question which does not appear to have received the attention it deserves; and yet, trivial as it may seem, it is one upon which the appearance of many large houses in London. Some of the houses in Rave Square, for example, have just been repainted and repaired, and present cheerful, and animated appearances in the state of "going to seed," while others, again, are in the most decayed and badly need repairs.

Hard Methods of Repairing and Repainting.

It is clear that this varying condition is due to the necessary repairs and repainting being carried out in a haphazard manner at different times. The architects of the eighteenth and early nineteenth centuries were alive to the need of giving periodical attention to these stucco fronts. Messrs. Richardson and Gill, in their book on "London Houses," quote an example in the building leases of the Regent's Park which deals specifically with this point: "The lessees are to renew the colouring on the interiors within the month of every fourth year (every three years or better), the period being the same, and the tint to be of Bath Stone. One way of dealing with this question is the general adoption of this tint, but it is probable that an agreement between the owners and the District Council might achieve even better results. In this brief introduction we will turn to No. 36, situated in a corner of the square (pp. 480-1). The site is of unusual size, from front to back, and the house is an extremely rambling kind. It is due to that by careful adaptation of the portion considerable space would be available at the rear. This was utilised for the new house of about 68 ft. front-"

age to the return street. In the basement the trades entrance is as usual under the main portico, and gives admittance to a dark passage leading to a long and fairly wide corridor running the whole length of the house, very dark, paved with stone, and giving access to the different rooms. At the extreme end next the mews is the kitchen, of enormous size, very high, and extending the full width of the site; it is practically isolated from the rest of the building and reached by a corridor covered with a glass roof; on the left of the corridor are the larders. Apparently these were of a temporary character, and erected in an area between the kitchen and the main building. Considering the dimensions of the kitchen, the scullery is small and quite inadequate for the size of the house. Near the end of the long corridor are the service stairs, used chiefly in connection with the dining-room. There is a small servery at the rear. The house-keeper's rooms, servants' hall, butler's bedroom, men's room, still-room, and wine-cellar, are all off the corridor, the servants' stairs to the hall on the ground floor being opposite the trades entrance passage.

Defects in Bygone Planning.

If we may draw conclusions as to the relationship between masters and servants a hundred years ago from the planning of the servants' quarters, it would seem that their well-being and happiness were of little importance, so long as the masters were provided with a fine suite of rooms for entertaining purposes; life below stairs was disregarded. With little or no sun the arrangement presented a condition of things nothing can justify. It seems necessary to add that the defects cannot perhaps be attributed so much to an altogether callous disregard of their dependents' feelings as to the desire for fine effects in the principal rooms at the expense of the remainder of the house. To this end every other part of the building is subordinated, and all the details of service between the kitchen and the reception rooms are on absurdly irrational lines. It could have been only by the most arduous labours of a very hard-working domestic staff that a meal could reach its destination before it was cold.

Importance of the Service Staircase.

Again, if a service staircase was provided, the darkest portion seems to have been chosen for it. It never occurred to the architect or builder that a staircase, up and down which, of necessity, there must be considerable traffic, required to be well lighted. The servants' staircase in this example is very badly lighted, begins in the basement facing the trades entrance passage, and connects all the floors. A very old-fashioned lift for luggage occupies the well. On the ground floor a portico of two Ionic columns in antis gives access to the entrance hall. This is spacious, but extremely dark, as the portico roof cuts off considerable light. Two doorways in the wall opposite the entrance open into the inner hall containing the principal staircase, which is well-lighted by an oval top light. To the right is the library, while a short dark passage leads to the morning-room on the left and to the dining-room at the end. A room on the right of the corridor has been converted in a lavatory, bathroom, and w.c.,

the latter built out into the area at the time when people were beginning to demand better sanitary arrangements. These are arranged on all the floors, the construction being of quite a temporary nature.

The service adjoins the main staircase. On the first floor there are three reception rooms en suite with folding doors in the wall separating the rooms. Interesting features are the fireplaces with polished steel interiors of original design and Greek in character. The boudoir leading off the rearmost room is provided with a w.c. opening out of it. The whole of the main staircase is of stone, with an elaborate cast-iron balustrade and handrail of the same style as the fireplaces. This staircase is taken up to the second floor and opposite, at the head of the staircase, another smaller one continues to the third floor. There are two front bedrooms on the second floor, and as it was not possible to enter them both off the corridor an ingenious arrangement is contrived by projecting the walls of the corridor into the rooms with access to the two separate rooms on the right and left; to balance this projection into the rooms a similar arrangement is adopted next the front wall. This, of course, blocked up the middle window in the external wall, which is filled in, however, with a blind window exactly matching the others; on the third floor this idea is repeated.

The space at the rear of the staircase to the third floor is used as a dressing room in relation with the middle bedroom, and the back bedroom next the party wall is fitted up as a bathroom with a w.c., which is again a sort of outbuilding in the angle. There is no housemaid's closet on either this or the next floor, but one is provided in a dark corner near the servants' staircase on the fourth floor. On the half landing of the secondary staircase is a wooden enclosure with match-board partitions about 3 ft. 6 in. high, evidently used as a sort of luggage room. On the third floor the corridor is lighted by a lantern over the main staircase by means of borrowed light in the partition next the well. This floor follows the same plan as the one below, but without bathroom and w.c. From floor to ceiling the height is only 8 ft. 3 in.; the fourth floor is extremely low, being only about 7 ft. 6 in. clear in some parts. On this floor are the housemaid's closet and w.c., both top-lighted.

In the alterations the kitchen was brought under the dining-room, with the scullery, service, and cook's room surrounding it. The old kitchen and scullery were entirely cut off, and the opening in the rear walls blocked up in the basement. The wall between the corridor and the old still-room was taken away and a rolled steel joist carried across to pick up the floor joists of the dining-room, which previously rested on this wall. The kitchen range was connected to the flue of the old still-room. A glass covered way was erected across the area, giving access to two of the vaults, which are converted into larders. The w.c. was improved, and the other vaults were utilised for coals, boots, knives, etc. In the old kitchen the cupboards were re-erected in the house-keeper's room and the lead sink removed. To enable a passenger lift to be installed, the housemaid's room was curtailed, and behind it a good cupboard was provided.

The servants' hall was provided with a partition and converted into two rooms, one for the footman and the other for the butler's bedroom. A new fireplace was built in the latter, and the original butler's bedroom converted into the housekeeper's room. The servants' hall was removed to the room formerly used by the housekeeper, and the wine-cellar, together with the butler's pantry, retained in their original position, except that the old sinks were removed and new ones substituted. An improvement was made in the lighting of the service staircase by painting the walls white. It is a good plan to adopt this method in the dark portions wherever it is not possible to obtain more light through an external wall or by means of a larger top light. Most of the larger town residences have these dark service stairs, and they are nearly always placed in a position which can be lighted only from the roof. They have awkward winders, and are dangerous to any but those perfectly familiar with them.

Architectural Features Retained.

The whole of the stone floors in the basement were taken up and wood block flooring laid as being less noisy and warmer. For the ground floor considerable alterations were made in the entrance hall. The back wall was entirely removed and an architectural feature of four columns in pairs was erected, and care was taken to keep them in character with the Greek decoration. The removal of this wall gave more light in the entrance hall, and also introduced a fine architectural approach to the rest of the residence. By enclosing the open portico and forming a pair of entrance doors between the two central columns an entrance porch was obtained. This is rather a questionable adaptation, and should not be adopted if it can be avoided. It would have been more satisfactory to form a lobby entrance within the front entrance ceiled at about the height of the door, so that the general lines of the entrance hall would still have been maintained. A passenger lift was arranged between the cloak-room and the servants' staircase, and off the cloak-room in the old position a new w.c. was erected

projecting over the area at the rear. The old lift in the middle of the servants' stairs was retained for service to the upper floors, and the space under the main staircase enclosed to form a telephone-room. New doors were provided, all the rooms re-decorated, and parquet borders and flooring were laid in the dining-room, library, and morning-rooms. The York stone paving in the entrance and staircase hall was taken up and black and white marble substituted. The main staircase, being of stone, was washed down, and the iron balustrading carefully scraped and cleaned down. The staircase from the old service-room behind the dining-room was removed, and a lift put in its place. Extra light is obtained by means of a skylight and a floor light arranged to light the lift and service in the basement.

With the exception of the alteration necessitated by the introduction of the passenger lift, the first floor remained much as it was. The opening, however, between the two principal drawing-rooms was enlarged, and bay windows suggested for the small drawing-room and the boudoir. These were finally omitted, and the old w.c. projecting beyond the boudoir removed. The floors of the drawing-rooms were strengthened, and all of them laid with parquet flooring.

Modern Bedroom and Sanitary Accommodation Installed.

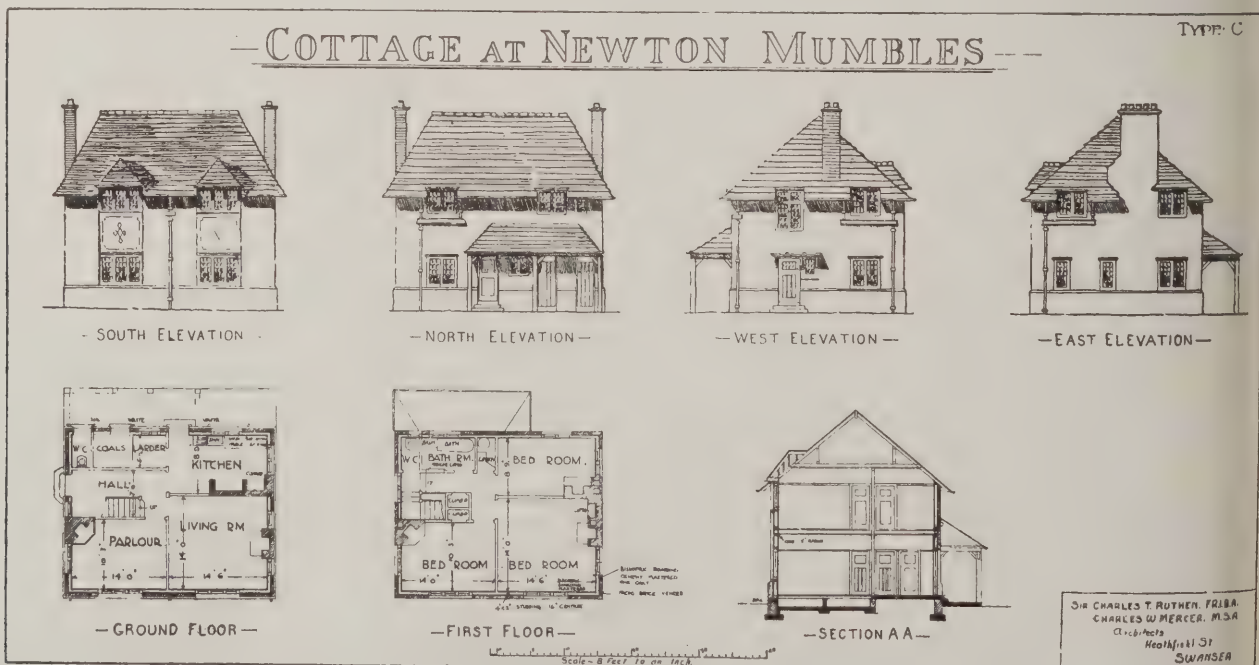
On the second floor the height of the rooms was increased a foot, and the front room so altered that the larger room should be more secluded from the noisy corner adjoining the streets. To this end the existing partitions were removed and a new one erected in its present position nearer the end window. This made a good dressing-room in conjunction with the new bedroom. The dummy window in the middle was opened up. The new scheme made necessary the rearrangement of the secondary staircase, so that access might be obtained to the dressing-room. At the rear of this staircase a bathroom, lavatory, and w.c. were contrived, making the front rooms practically self-contained. Another bathroom, w.c., and housemaid's closet were planned in the back room at

the rear of the new passenger lift. dummy window of the side elevation portioned to the dressing-room was opened up, being a part of the original design of that façade.

The raising of the third floor in order to improve the second floor rooms in the raising of the one above. These were not taken out and reconstructed, the walls being cleared to allow the beams to move upwards; the smaller resting on these beams were cut ends to allow movement. Nearly all internal walls are of brick, and run right down through all the floors. The back bedroom behind the passenger lift was modified in somewhat the same way as the one on the floor below, and into a bathroom, w.c., and housemaid's room. The old w.c. annexe being removed, windows were, of course, necessary in case.

Behind the new secondary staircase space was converted into a bathroom opening off the large bedroom. The stairs stop at this level, access to the floor being by the service staircase. Owing to the floors being raised the roof was removed, and an entirely new built at a higher level to obtain sufficient head room. Only one bathroom was needed on the floor, which was tended entirely for the staff of service. The passenger lift was continued to the floor for the conveyance of heavy luggage. Over the service lift a skylight was erected to obtain as much light as possible in the lower parts well.

We cannot conclude this description of the adaptation of a London house without emphasising the need for a wider appreciation of adaptation as an important aspect of the problem which confronts housing authorities in London. Nevertheless, we are glad to have noted recently signs of awakening to its possibilities, and soon to see London genuinely moving to the spectacle of its own decay and renewal. The present housing programme touches the fringe of the subject.



PLANS AND ELEVATIONS OF SIR CHARLES RUTHEN'S COTTAGES AT NEWTON, MUMBLES: TYPE C.

—COTTAGE AT NEWTON MUMBLES—

TYPE A

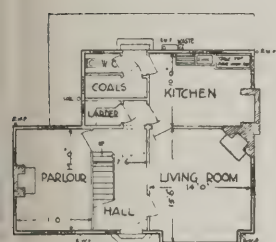


—SOUTH ELEVATION—

—NORTH ELEVATION—

—EAST ELEVATION—

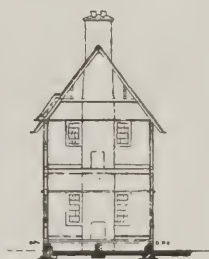
—WEST ELEVATION—



—GROUND FLOOR—



—FIRST FLOOR—



—SECTION AA—

Scale—8 Feet to an Inch

SIR CHARLES T. RUTHEN, F.R.I.B.A.
CHARLES W. MERCER, M.S.A.
Architects
Northfield St
SWANSEA

---COTTAGE AT NEWTON MUMBLES---

TYPE B.

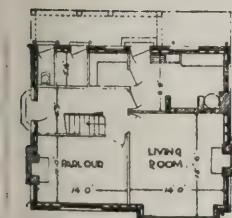


—SOUTH ELEVATION—

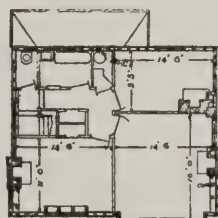
—NORTH ELEVATION—

—EAST ELEVATION—

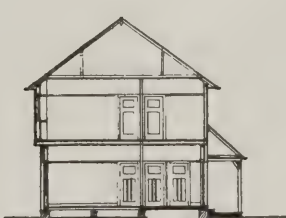
—WEST ELEVATION—



—GROUND FLOOR—



—FIRST FLOOR—



—SECTION AA—

Scale—8 Feet to an Inch

SIR CHARLES T. RUTHEN, F.R.I.B.A.
CHARLES W. MERCER, M.S.A.
Architects
Northfield St
SWANSEA

PLANS AND ELEVATIONS OF COTTAGES ERECTED ON A RAPID SYSTEM OF CONSTRUCTION AT
NEWTON, MUMBLES, SOUTH WALES.

SIR CHARLES T. RUTHEN, F.R.I.B.A., AND CHARLES W. MERCER, M.S.A., ARCHITECTS.

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Professor Richardson's Opening Lecture at University College

PROFESSOR A. E. RICHARDSON, R.I.B.A., in his opening lecture at University College, London, after a synopsis of the procedure that fore every student of architecture, warning against short cuts which, morasses, said that no ordinary could hope to achieve more than proficiency unless he was prepared to make sacrifices. The chief thing required of an architect was that he be able to draw. Drawing conveyed more to client and more than twenty thousand words in a fraction. Proficiency in draughtsmanship meant efficiency in building. A pocket sketch book and drawing instrument that pleased the fancy; make at one architectural sketch a day. Do not sketch with a purpose and so lose power of selection. Never be content to stand in the street to sketch architectural feature. Some there were who said, "I never get any time to sketch, these days I will begin"; that day comes. Now was the time. All the great architects started their studies in drawing. Proficiency in drawing was an essential item in the equipment of the great architect. Perspective drawing comes from continual practice. The early perspective drawings were crude, and Prout had only a rudimentary idea of foreshortening.

Hints on Sketching.

In undertaking a sketch draw the whole or part in true elevation, indexing prominent details A, B, C, and enlarging special features; afterwards try a perspective view. Draw on anything, on anything. Teachers of architecture do not teach the esoteric art of building; they could only point the way, and the first instruction. A sketch of medium size was the best one that could be carried in the pocket; never be without this book, and learn to rely on it at once. Style of delineation will gradually be cultivated, reflecting personality on lines parallel to the hand-drawn, and facility of expression would be required. Facts hitherto unknown would be brought to notice, and to an intelligent student, not only the intention of the designer but the skill of the artificer would become known. They should learn to accustom themselves to sketching in pencil and with the brush. Through the facility of sketching they would be acquainted with the character of buildings that had stood the test of time. They would gain a knowledge of proportion, rhythm, and refinement. They would learn the inner meaning of cause and effect, become acquainted with the work of the masters of architecture, and look upon Peruzzi, Wren, Gibbs, and Cockerell as dangerous competitors. Gradually the syntax of drawing would become clear and their expression would improve. All the arts are one upon the other, music, painting, sculpture, literature, rhetoric, and many other subsidiary arts had a common likeness, they responded to the same conditions and evoked kinship motions. What was true of any branch of the arts applied with equal force to the whole. The student of literature with aspirations to authorship, his studies upon the work of former poets; the painter, if he believed in the teachings of the giants, learnt to select and put together rather than to attempt haphazard and ill-considered originality. He

could not dwell too forcibly on the importance to architectural students of sketching without cessation.

When entering a cathedral or any public building of vast size people were astonished at the complexity of everything—the scale was amazing, the multiplicity of detail was surprising. Yet if they have the patience to lay siege to the plan, to follow the line of the section, and to grasp the resulting elevational treatment, the secret of the place became apparent. They should be content at first to make a study of a door or window, a prominent cornice or order, a large capital, or one bay of an arcade. After years of sketching they would be able to grasp the essential features of a plan with very little effort. They would be able to master the intricacies of a town without having recourse to maps, and so in course of time retain impressions of style and character indispensable to a designer.

Draughtsmanship was the chief part of an architect's training, but it was not everything; undue facility in the use of a pencil led to carelessness. The best designers introduced brains with the blacklead. By studying and sketching the finest examples of architecture, from the cottage to the parliament house, they would be enabled to conceive without putting pencil to paper. Drawing and sketching, if practised with consistency, taught the art of designing in perspective, the only true method. First, conception was bred through the agency of special conditions and requirements, coupled with a knowledge of character, natural, local, and individual. Reasoning was the basis of conception, draughtsmanship was the servant, and science. Yet all were subordinate to tradition, and no man is equal to the task of creating a new order of things, for first principles must without question remain constant.

Measured Drawings.

Another branch of architectural study that required prolonged labour was measured drawings. In measuring buildings of historical importance careful notes of peculiarities should be made, and they should accustom themselves to the use of the measuring rod and level, gaining experience by plotting the dimensions on the spot. They should look for something beyond elevational effect; if they were observant they would encounter the personality of the architect, no less than the character of the individual workman in the features of the building, but always, be the building excellent or otherwise, the dominating thought of the master builder. Measured drawing taught human scales, the relation of one part to another, the whole system of proportion about which no book has yet been written. One building was much the same as another, independently of style: the same idiosyncrasies will be seen, the give and take, compromise and adjustment, the human trait signifying care or neglect, efficiency or extravagance, all were shown. Good construction alone would not ensure a building being fine in the literal sense of the term, neither would science redeem a building devoid of style and character. Proportion could be learnt from existing buildings because proportion was the essence of architecture. Even a cottage might contain the elements and truths, perhaps subtly concealed, of the temple of Edfou or the superb strength of the Parthenon. It was fallacious to despise humble things. The

question had been raised on more than one occasion, what was the use of studying Greek architecture, how was it possible to apply the module to a country building? The answer was that one would be well advised to study proportion as it was exhibited in the highest forms, in order to gain an index to the whole theory. Architecture, historically considered, was an intricate mosaic, all the parts of which constitute one of the finest expressions of life; no two pieces are similar, but each and all have a place in the patterning.

The subject should be viewed broadly, remembering that conception was the dominant factor, and that construction was subordinate. As they obtained experience in the art, they would learn to modify construction, to express the character of the original conception; the two processes were one and indivisible. Local materials, peculiar conditions, wars, politics, and religion, all played a part in the making of buildings. The architect was only an agent. Conception embraced a knowledge of all things, artistic and mediæval, included in the making of a building. It should be possible for an architect, trained to think on broad lines, to start building on a desert island far removed from every modern appliance. He would not invent a new style, but he would find his previous theories of proportion and fitness extremely useful.

Influence of Tradition.

Living in a highly civilised country we could not escape the beneficial influence of tradition. The complexities of it all were a little disconcerting even to the man of experience, and it was no wonder there was some endeavour to burke the difficulty of studying history and make a vain attempt to be original. Such efforts only increased the confusion, and, after a short run, the aspirants after originality returned, shamefacedly, to the main road. Archaeology, and the researches of the antiquary, provided material for the architect, while to some extent architects had to combine the research work of the archaeologist and the antiquary with their ordinary practice.

The responsibility of the designer does not end with the erection of the building, which once finished remained perhaps for centuries exposed to public criticism. It was important to be exact in the selection of traditional motifs, and how necessary it is to avoid solecisms in designs. There must be sympathetic consonance between elevation, plan, and section, a rhythmic sequence in the cohesion of every part, a masterly touch in the shaping of detail, and reticence in the selection as well as in the execution of ornament; all the foregoing attributes respond to the quality of the original conception. It was essential to obtain a thorough knowledge of the masterpieces of antiquity, for in direct ratio to their theories of what tradition implied their own expressions would depend.

At last it was realised that all architecture was akin, that the laws of composition were immutable. We were in the midst of a greater Renaissance. There had been no abrupt halt, only insignificant periods of experiment and transition. Our task was immeasurably greater than that of the men who had preceded us, because more was demanded, vision without question had to be more comprehensive; but, on the other hand, the advantages were greater.

CORRESPONDENCE.

Pisé de Terre.

Invited to express his views on the use of *pisé de terre* for cottage building, Sir Reginald Blomfield writes as follows:

SIRS,—I have never used *pisé de terre* and can therefore tell you little about it. So far as the look is concerned, it might be made attractive enough, owing to the solidity and mass of the wall which it requires; but, from the point of view of a practical man and an owner, I should be very sorry to use it on account of the probability of constant repair which it would involve. Also, though the walls would not cost much, the roofs would cost a good deal if it is to give anything like the effect of the old cob or wattle and daub cottages. I doubt myself if it will the least meet the difficulties of the case.

Yours etc.,

REGINALD BLOMFIELD.

Wooden Houses.

SIRS,—As architect for a scheme of six hundred houses in the county of Essex I am naturally very interested in your articles on the wooden houses, and also have opportunities for studying the old examples which abound in this district. I think the following comments may be of interest:

(1) Although many of the old wooden houses here show elements of charming design, they all suffer from the fact that unless the paint is frequently renewed (which it hardly ever is) they acquire a drab and dirty appearance which is far from pleasing. For this reason very few indeed of the cottages round here give any delight to the eye, however well they may look in photographs.

(2) The sagging and twisting of door and window frames, which is observable in so many specimens, is not, to my mind, picturesque, but gives a dilapidated, "tumble-down" appearance.

(3) We have at present the anomaly of a State Housing Department urging architects to find substitutes for timber on account of its present dearness and scarcity. On the other hand, a big Press agitation is being carried on in favour of building wooden houses wholesale on account, partly, at any rate, of their cheapness. Perhaps some authoritative voice will one day inform us whether timber is really scarce and dear at the present time, or plentiful and cheap.

(4) Your contributor, "Aero," waxes enthusiastic on the possibilities of design in wood—talks of elegant porches, doorways, and wooden eaves, etc. Yes, but he has reckoned without the Housing Commissioners. When I submitted the first designs of my scheme a few months ago, I was informed by the Housing Commissioner that, on the score of economy, he could not allow any porches, bay windows, ornamental doorways, mouldings, etc., and he even objected to the panelled treatment of plaster fronts in accordance with the delightful Essex tradition. On the same alleged ground of economy, he cut down the number of separate types from fifteen to four. In these depressing circumstances, the only possibility of getting variety in a large scheme is by judicious grouping in pairs, threes, fours, sixes, etc., with varying combinations of the four units. Now, if wooden houses are to be built wholesale, and the Housing Com-

missioner persists in cancelling out all features which might give interest to the designs, and grouping is also to be debarred on account of the risk of fire, what sort of a scheme is to be made out of hundreds of plain wooden "boxes" each dropped on the middle of its own cabbage patch?

Yours etc.,

F. G. COATES, M.S.A.

Rebuilding of the Empire.

SIRS,—If architects are to have their proper share individually and collectively in rebuilding the Empire in a material as well as in a wider sense, and their rightful position now and in the future in the scheme of national service, some organisation must be evolved at once whereby the separate architectural bodies can take direct joint action at any moment on behalf of the whole profession.

It can be done if it is tackled in what the Prime Minister recently described as the "spirit which has brought us through the war," viz., the sinking of all personal feelings, the pooling of all essential resources, and the working of all together towards one objective for the common good.

It was in this spirit that the Architects' War Committee was formed, and the principle adopted by its founders of union by federation. If this Committee has not accomplished all that some of its members hoped, it has at any rate served a most useful purpose in breaking down barriers, removing prejudices, and bringing into close and friendly relationship the representatives of architectural bodies hitherto personally unknown to, and to some extent suspicious of, each other.

The Architects' War Committee contains the nucleus of what I will call "The Federated Councils of British Architectural Societies," a body whose formation under the title of a "Board of Professional Control" I suggested in April, 1912, little thinking how soon, and under what circumstances, it would come into being in principle if not in fact and in name.

Would it not be well before the Architects' War Committee is discharged to call its members together and see whether or not the existing machinery erected for war work can be utilised or adapted for other purposes. I am afraid that if the machinery is once scrapped it may never be re-constructed, or any new machinery devised.

The spirit which has brought us through the war will bring us through other troubles. We have had a long professional armistice, but peace has not yet been ratified, and contentious professional questions shelved during the war must inevitably arise again very shortly unless steps are taken at once to settle them by some such means as I have indicated.

The views I have put forward are my own; there is nothing new about them, but now is the time again to discuss my original proposal if it is thought to merit any further consideration. If anyone else has what he thinks is a better scheme let him give the profession the benefit of it. It is high time that the energy, time, and money expended by the members of the committees of separate professional bodies in trying to attain the same objective should be directed into a channel which will prevent overlapping and result in unity of command and action.

Yours etc.,

C. MCARTHUR BUTLER,

Secretary of the Society of Architects.

MODEL FORM OF CONTRACT
FOR STATE-AIDED HOUSING
SCHEMES.

The Ministry of Health have prepared a model form of tender and agreement, conditions of contract and Schedule of Prices D88, for the general guidance of local authorities and public utility societies in connection with contracts for State-aided housing schemes under the Housing Acts. In the General Housing Memorandum No. 10, issued with the form of tender, the Ministry state that, subject to any modifications to suit local conditions, it is intended that these forms should, wherever possible, be adopted. The forms comprise a model form of tender for use where the contractor tender for and undertakes to erect the whole of the houses required; an alternative form of tender for use where a portion only of the total number of houses required is tendered for; and a form of contract comprising articles of agreement, conditions of contract, and a "schedule of prices." The procedure provides for tenders being submitted and the contract entered into for a lump sum, subject to additions or deductions consequent on variation orders or adjustment of provisional amounts or "priced" items. Owing to the present uncertainty as regards costs of labour and materials, it has been deemed desirable to include in the conditions of contract provisions for adjustment of the contract price in the event of changes in rates of labour or costs of materials during the currency of the contract. The Ministry consider that such provisions should be regarded as a purely temporary measure, and their opinion it is very desirable that a system of firm contracts formerly obtaining in the building trade should be reverted to at the earliest possible date. With this object in view, the provisions as to adjustments referred to are to be regarded as transitory provisions, and it is hoped that there may be a gradually increasing number of cases in which a contract will be let at a firm price without the insertion of these provisions.

Where this clause as to adjustments is included, it is necessary that a schedule of prices showing prices of material and rates of labour ruling at the date of the contract and on which the tender is based should be filled in. This document is designated the "Schedule of Prices," and should be issued with the forms of tender and returned duly completed with the tender—or at least before the tender is accepted—and if the tender is accepted the schedule should subsequently be attached as a separate document to the contract. References may be made to the arrangements with the Director of Building Material Supply for the supply of building materials in connection with State-aided housing schemes. In establishing this branch of the Ministry of Munitions, the Government had two main objects in view, namely, providing employment for men demobilised from the Army and munition works, and stimulating production of building materials in anticipation of the requirements of the housing programme. Both of these objects have been attained and it is now considered desirable that contractors for housing schemes should, as far as possible, arrange for the supply of materials wholly or in part otherwise than through the Director of Building Material Supply, so far as this can be done without increasing the cost. It is therefore requested that local authorities and public utility societies draw the attention of contractors to this fact.

Town Development and Housing

L.C.C. and Height of Houses.

L.C.C. reports against the suggestion of the Ministry of Health that rooms in houses should be only 8 ft. high.

Oldbury Housing.

Oldbury Urban District Council have decided to proceed with the scheme for the erection of about 500 houses upon the old Hall and Moat Farm estates.

Bungalows for Harrow.

Harrow has adopted a scheme for building twenty-eight bungalows, which can be erected quicker than the ordinary small houses and cost £200 or £250 per house.

Keighley Housing Proposal.

Keighley Guardians have decided to refer the Ministry of Health to sanction the conversion of the old nursery block as tenement dwellings.

Wooden Houses for London.

The chairman of the Housing Committee has stated that the Committee is considering the advisability of experimenting with wooden houses on the Council's building estates.

Housing at Liskeard.

At a meeting of the Liskeard Rural District Council the clerk (Mr. A. de C. Glubb), reporting on the progress of the housing scheme, stated that the committee had decided to acquire a number of sites in the district.

Scarborough Housing.

At a meeting of the Scarborough Town Council plans were approved for the erection of a Road housing scheme, and the Town Engineer and Town Clerk were instructed to forward them to the Ministry of Health.

Housing at Wednesbury.

At a meeting of the Wednesbury Town Council it was reported that the estimated cost of a housing scheme was £37,766, and the cost of £860 each house. Sanction had been given to the borrowing of £4,720 for the purchase of land for the erection of working-class dwellings.

Hendon Housing Scheme.

Hendon Urban District Council has accepted a tender of £29,888 for the erection of thirty-seven houses at Child's Hill, at a cost of £808 per house. This does not include the cost of site, street works, and sewerage. The rents will range from 1s. 6d. to 2s. 6d. a week.

Birkenhead Houses.

In his annual report of the assistant town clerk of Birkenhead, Dr. Cyril Davies states in regard to housing, only three houses have been built since 1914, and none have been demolished. Only one was built in 1917, and none last year. The population of the borough was 33,000, and the houses number 26,807.

Cost of Houses at Willesden.

Willesden Council find that the cheapest three-roomed cottage they can build will cost at a rental of £1 13s. 6d. a week. Under the circumstances the Housing Committee recommend that no useful purpose will be served by proceeding with the scheme. Since new houses cannot pay an adequate rent, it is obvious that housing will have to be State endowed.

Thornbury Housing Scheme.

Thornbury District Council considered four tenders for the erection of ten houses at Charfield at the following prices, including drainage: £9,130, £10,141 11s.; £10,727, and £13,007. It was decided to submit the tenders to the Local Government Board. An application for the erection of a Y.M.C.A. hut at Charfield was approved.

Houses v. Cinemas.

Questions regarding the demolition of houses to provide cinema sites were raised at a meeting of the London County Council, and Sir H. Stephens said the Pictures and Theatres Committee would consult the Housing Committee before agreeing to give approval to new cinema plans. The Council, however, had no power to prevent the building of places of amusement.

Huts for Housing at Bilston.

The prisoner of war huts adjoining the Spring Vale Steel Works, at Bilston, have been acquired by the District Council for a period of eighteen months to house families rendered homeless through mining operations affecting houses in Free Street, and steps are being taken with the view of securing Army huts to accommodate an additional 200 persons.

Chertsey's Wooden Houses.

Without waiting for new regulations concerning wooden huts as dwelling houses, the Chertsey Rural District Council has decided to amend its building by-laws in order to permit wooden huts to be used as dwelling houses when plans have been approved. Such a hut will be erected on a farm at Chobham, and a chalet, almost entirely of wood, will be built at Byfleet.

Paddington and Conversion of Houses.

A list of about 500 empty houses in Paddington having been submitted to the London Housing Board by the Borough Council, 170 have been selected by the inspectors as suitable for conversion into flats, and in all probability twelve of these will be taken in hand at once. Already the Council has received 180 applications for flats in the converted houses.

Housing at Halesowen.

Halesowen Rural Council have completed the purchase of the site in Offmoor Lane, Hasbury, upon which it is proposed to erect sixty-four houses. The land consists of about seven acres, and the Council have purchased it for the sum of £1,200. The surveyor is at present engaged upon the preparation of the plans, and it is hoped to commence building operations at an early date.

Nottingham Housing.

Nottingham City Council, which a short time ago turned down the scheme for building houses which were going to cost about £2,000,000 on various sites, again had the matter under consideration, and decided that the Housing Committee be requested to build 150 houses on the Stockhill Lane site and another 400 in different parts of the city, including Sneinton, Meadows, and St. Ann's Well Road districts.

Unfit Houses at Bermondsey.

Bermondsey Borough Council have been informed by their Housing Committee that they have considered a list of thirty

vacant or available sites in the borough upon which houses for the working-classes could be erected, and have given instructions for the town clerk to negotiate for them. These include plots of land in Tower Bridge Road belonging to the London County Council, where the slums were pulled down when the approach to the bridge was made. There are no vacant houses in the borough that can be converted into flats or tenement dwellings, and the Ministry of Health have been informed of this. There is such a dearth of houses that the Council has been forced to suspend orders for the closing of houses unfit for human habitation.

Local Authorities and Housing.

"Housing, Powers, and Duties of Local Authorities" is the subject of a pamphlet which has been issued by the Ministry of Health. The pamphlet, which should provide local authorities with a wider knowledge of their powers in regard to housing, should prove useful to members of the various municipal councils who are not familiar with the complex provisions of the Housing Acts. The provision, conversion, and repair of houses; financial assistance from the State; clearance of slums; powers of county councils; assistance to persons to buy their own houses; and what local authorities should do immediately are some of the subjects dealt with, and an appendix embodied shows how and to whom complaints may be made with regard to unsatisfactory housing conditions. The pamphlet may be obtained, price 2d., from H.M. Stationery Office, or from E. Ponsonby, Ltd., Dublin.

Kirkcaldy Housing Schemes in Prospect.

At a meeting of the Kirkcaldy District Committee of Fifeshire County Council, the Chairman mentioned that the Committee in charge of the matter had been instructed to proceed with 250 houses. They had in their minds an ultimate idea of 600 for the district, and under the new Act they must resolve to add 350 to their original estimate of 250. The Committee agreed to go on with 600 houses, and it was remitted to the Housing Committee, with powers, to have the work proceeded with. The plans for the 250, it was stated, were well on the way, and the Committee could allocate the extra houses proportionately to the various districts. It was also agreed to approach the Government asking them to approve of a 60 per cent. proportion of three-roomed houses and a 40 per cent. proportion of four-roomed, dropping out five-roomed houses altogether.

Redditch Housing.

At a meeting of the Redditch Urban District Council it was reported that a deputation had interviewed the officials of the Ministry of Health, who had accepted, with slight modifications, the plans prepared by the council's surveyor on the lines of the houses which have already been erected by the council, but with a wider frontage. This, it was stated, would enable a greater number of houses to be erected on the same length of street, and would prevent the disturbance of a number of permanent allotment holders. The council decided to instruct the surveyor to prepare plans for the building of forty-eight houses in accordance with the amended plans for submission to the Ministry of Health.

The Week's News from Far and Near

New School for Hornsey.

A new public elementary school, to accommodate 1,200 children, is proposed for Hornsey.

War Memorial for Hampton-in-Arden.

It has been decided to erect a cross as a public war memorial for Hampton-in-Arden (Warwickshire).

Proposed Memorial for 1900 Club.

It is proposed to erect a memorial in the 1900 Club premises to the members who fell in the war.

The Safety of Westminster Bridge.

The reports that have been current that Westminster Bridge was not safe were contradicted at a meeting of the London County Council.

War Memorial at Hales Owen.

Hales Owen Rural Council have decided to purchase from the rector a portion of glebe land for the purpose of erecting public baths as a war memorial.

Proposed New London Theatre.

It is proposed to erect the "Everyman Theatre" opposite the Finchley Road entrance to Golders Green Tube Station, and the initial cost is put at £10,000.

Street Name Plates.

The Secretary to the General Post Office suggests to local authorities that postal district initials and the number of the office of delivery be shown on all street name plates.

Kenley War Memorial.

The war memorial for Kenley is to take the form of an institute, which it is proposed to erect on the piece of land between Kenley Police Station and Lloyds Bank.

Hospital Extension at West Bromwich.

West Bromwich Town Council have approved a scheme for the erection of a new isolation block, consisting of one ward, to accommodate eight beds, and six isolation rooms, at the Infectious Diseases Hospital, at a cost of £5,000.

Mr. Newton Appointed to Ministry of Health.

Mr. Ernest Newton, R.A., has been appointed hon. architect to the Ministry of Health, with the special duty of assisting the Ministry to safeguard buildings of architectural or historical interest which it may be proposed to repair as part of a rural housing scheme.

A Veterans' Club.

One million pounds is to be raised under the "Imperial Memorial Scheme" to build a large "Veterans' Club" near Charing Cross. The club will be a gathering ground for all those who have served in His Majesty's Forces at any time. It is to contain a thousand beds.

Cinema Hall Destroyed.

Victoria Hall, Exeter, one of the largest meeting places in the city, has been destroyed by fire. It had been used as a picture palace, and everything appeared to be in order when the building was closed after a railway men's meeting the previous night.

Hitchin War Memorial.

At a recent public meeting at Hitchin to discuss the proposed war memorial the following resolution was adopted: "That a memorial cross with a suitable inscription

be erected at the foot of Windmill Hill at a cost of not more than £2,000, and that if a sufficient sum of money be subscribed the names of the fallen be inscribed on a wall or cloister at the back of the cross, but if sufficient funds are not available for this, panels with the names of the fallen be placed in a suitable position in the Town Hall."

Victoria and Albert Museum.

The modern section of the War Memorials Exhibition at the Victoria and Albert Museum is now closed. Some of the exhibits in this section are being transferred to the War Memorials Exhibition shortly to be held at Burlington House. The retrospective section will remain open for the present.

Welsh Builders' Strike.

Another strike has occurred at Llan-gollen. A considerable number of builders, painters, masons, and joiners have ceased work after having sent an ultimatum to the masters demanding 1s. 7d. an hour instead of 1s. 3d. The masters deliberated, considered the request unreasonable, and refused to concede it.

United States Timber.

With the addition of the present growth of new timber at the annual rate of approximately 20 billion ft., there is now standing in the United States enough timber to secure a supply of raw material for the lumber industry for over 150 years, according to the secretary-manager of the National Lumber Manufacturers' Association.

Rapid House Construction.

At the meeting of the Society of Architects to be held at 28, Bedford Square, W.C., on October 18, at 8 p.m., Sir Charles T. Ruthen, O.B.E., a member of the Council of the Society, will explain the nature of the experiment which he has made in rapid house construction in South Wales, and which were described and illustrated in THE ARCHITECTS' JOURNAL, No. 1,291, pages 415, 416. The meeting will be open to anyone interested in the question of providing houses quickly at a reasonable cost.

Londonderry Architects' Application.

At a special meeting of the Londonderry Corporation applications were received from seven city architects to undertake the work connected with the new housing scheme. It was decided that a conference should be held between the applicants and a special committee of the Corporation to arrange a scheme for the distribution of the work. It was also decided to leave the question of fees over pending a rate being fixed between the Local Government Board and the Institute of Architects.

Brimscombe Polytechnic.

Classes in building trade subjects are being strongly developed by the Brimscombe Polytechnic, near Stroud, Gloucestershire. In addition to the classes in carpentry, joinery, cabinet-making, and painters' and decorators' work, which commenced recently, instruction this year is being given also in masonry, bricklaying, plastering, and tiling. The Brimscombe Polytechnic have the assistance of the Master Builders' Association and the support of the Gloucestershire Education Committee. Full particulars may be obtained on application to Wilfred L. Randall, the Principal.

Re-opening of White City.

It is understood that plans are being discussed for the re-establishment of White City at Shepherd's Bush as a "recreation and entertainment" centre, and the Government are making arrangements for a withdrawal. Part of the premises are to be vacated this month, but it is anticipated that the whole will be given over to its owners until the end of the year. The portion which is being given over comprises the buildings in Wood Lane, which have been occupied by the Admiralty. A large quantity of material is to be sold by auction.

Professional Training for Ex-Servicemen.

In response to a suggestion from the Ministry of Labour that members of the Society of Architects should take ex-Servicemen candidates into their ranks, the Council have decided to accept non-premium pupils, the Council being rapidly superseded by the architectural school, which offers wider educational facilities, especially if leading to further training on Beaux Arts lines. The Society, which has long advocated the establishment in this country of a Ministry of Fine Arts for the support, inter alia, of a national school of architecture, has reported by prominent public men and known architects with a view to the action being made for the support of the Board of Education. A Government grant in aid of ex-Servicemen at architectural schools might be the first step in this direction. It is, however, to be made clear to potential candidates that years of arduous and intensive training are an essential preliminary to entering the architectural profession, and while there are reasonable prospects of success for qualified architects, there is no room for the unskilled."

Honan's Scholarship, Liverpool Architectural Society (Incorporated).

This annual travelling scholarship of value of £50 is open to members of the Liverpool Architectural Society (Incorporated) under the age of thirty years, computing age the time spent in war service may be deducted. The scholarship for the year 1920 will be awarded to the best essay on the architectural work of one of the following architects, selected by the competitor, viz.: John Ruskin, Christopher Wren, or Inigo Jones. The essay to be illustrated by pen and ink sketches, and of an approximate length of 5,000 words. If in the opinion of the Council no essay submitted is of sufficient merit to justify an award the scholarship may be withheld. The successful candidate will be required to submit an outline of his proposed tour for the approval of the Council, who will pay the incorporation of the scholarship in two instalments. Drawings or documents may not be distinguished by mark, and all documents must be typewritten. A plain sealed envelope shall contain the name of the author. Competitions marked "Honan's Scholarship," to be addressed to Mr. Richard Holt, are to be delivered to the Victoria Street, Liverpool, on or before January 31, 1920. Candidates for the scholarship must have been elected members of the Society not later than January 31, 1920.

LOCAL HOUSING REPORT.

Return of housing progress issued by the Ministry of Health states: Number of new schemes submitted by local authorities during the week ended October 4 was ninety-six, and the total number of schemes submitted by local authorities and public utility societies to the Ministry is now 5,189. The number of schemes approved is now 1,783—sixty having been approved during the week under review. The number of houses submitted is 654, representing 24,388 houses have now been

Eight local authorities in England and Wales have made definite applications for army huts, with the view to their conversion into working-class dwellings. In sixteen of these cases the huts have been placed at the disposal of the local authorities. Eight local authorities are in possession of the huts, and in several areas the work of conversion has begun. The families in actual occupation of converted army huts now number 134. In eight out of the applications from local authorities have been made within the last six weeks.

Of local authorities' schemes submitted during the week are as follows:

Building Sites.

Schemes Submitted.—The number submitted by forty-four local authorities was 108, bringing the total number of sites to 5,121, covering approximately 20,391 acres.

Schemes Approved.—Sixty schemes have been approved, comprising an area of 493 acres. This brings the total number of schemes approved to 1,783, covering approximately 20,391 acres.

Lay-outs.

Schemes Submitted.—Thirty-seven lay-outs were submitted by twenty-five local authorities, bringing the total number of lay-outs submitted to 988.

Schemes Approved.—Thirty-nine lay-outs were promoted by twenty-five local authorities, were approved, bringing the total number of schemes approved to 546.

House Plans.

Schemes Submitted.—Twenty-one house plans representing 1,215 houses, were submitted by sixteen local authorities, bringing the total number of local authorities' schemes to 624 and the number of houses to 33,357.

Schemes Approved.—Thirty-one house plans promoted by nineteen local authorities, were approved, bringing the total number of schemes approved to 413, representing 1,215 houses represented to

Conversion of Temporary Buildings.

On October 4 twenty-eight local authorities have applied for permission to convert army huts, and 114 huts are now in occupation.

For details with regard to the housing movement throughout the country will be found under "Town Planning and Housing" on page 489.]

PETITIONS OPEN.

Due to the abnormal pressure upon the Ministry of Health we are unable this week to include a list of competitions open. Desiring to consult it should refer to next week's issue.

THE SLUM PROBLEM IN LONDON.

At a meeting of the London Centre of the Sanitary Association, held in the Caxton Hall last week, the Ministry of Health invited the sanitary inspectors present to study the slum problem from the point of view of London as a whole. Mr. I. G. Gibbon, assistant secretary to the Ministry of Health, said that no metropolitan borough desired to lose part of its population, as usually happened when slums were swept away. They should consider whether it was for the best that areas which were cleared should be left as open spaces, whether dwellings should be erected on them, or whether, when the trend of the neighbourhood was in that direction, they should be allocated to factories or warehouses. If they came to the last conclusion, he asked them to bear in mind what would be the effect of the increase of passenger and other traffic. Regarding wooden houses, he said that the Ministry, where the need was great, was urging local authorities to use Army huts for houses. The wooden house problem was not so simple as it sometimes appeared. The cost of putting up wooden houses under present conditions, even given transport facilities, would make them nothing like so good a proposition as might at first glance appear. As to tenement houses, he did not think they should be higher than three storeys unless there were special reasons.

THE REBUILDING OF YPRES.

A recent issue of "The Times" contains an instructive contribution on the rebuilding of the ruined town of Ypres, and urges that immediate steps be taken to put this important matter in hand. The Belgian Government, the writer points out, has shown itself very willing to consider all reasonable proposals in the way of conserving the ruins and of erecting memorials. It has declared that the remains of the Cloth Hall, Cathedral, and adjacent buildings will be left as they are. Even so, a considerable amount of attention will be needed if the walls and tower are to be rendered proof against the weather. It has agreed that a museum shall be erected on the spot where General Mercier fell. It has allotted to the Canadians certain sites by the Menin Gate. It has promised a site for the erection of an English church. There has been talk of preserving the whole of the remains of the town as a memorial. But those who have made this suggestion take little account of the conservatism of the Belgian freeholder, or of the cost of expropriating him. It is to be presumed that, locally, expropriation on any large scale would be a highly unpopular proceeding. If nothing is done to intervene it is probable that a year or two will see the private houses of the town rebuilt practically as they were before the war. Nothing is more remarkable—nor more characteristic of the Belgian people—than the way in which, all over the country, they appear to have been satisfied with their old houses. While to the foreign observer it would seem that Belgium has at the present time an exceptional opportunity for effecting improvements in housing, it must be remembered that in Belgium local autonomy and the sense of private liberty are peculiarly strong. One can only hope that enlightened Belgian opinion will prevent the erection of "atrocities" on the sites surrounding the central area which is to be left intact.

ENQUIRIES ANSWERED.

Lighthouse Whitewash.

C. H. B. (Clapham) writes: "Can you give me a recipe for a good whitewash? I am informed that a particularly good mixture is that known as Lighthouse Whitewash. Do you happen to know where I could find it? It might be extremely useful in present circumstances."

—Flake half a bushel of lime with boiling water, and cover to keep in the steam. Strain through a fine strainer. Add peck of salt previously dissolved in warm water, 3 lb. ground rice boiled to a thin paste, and stir in while hot $\frac{1}{2}$ lb. Spanish whiting, 1 lb. clear glue dissolved in cold water. Pour into pot, in larger one nearly filled with water. Add 5 gallons hot water, stir well, let stand some days; to be applied hot.

Draining-bricks.

H. M., London, writes: "There is a method of drying damp walls by building in at intervals bricks which drain out the moisture. I believe they are called K or Kay. Could you tell me who they are made by?"

—We cannot trace a building brick of this name. Perhaps some reader would like to give the information for which the querist asks.

Approval of Private Housing Schemes.

T. J. E. (Bridgend) writes: "Is it necessary for a building scheme to be submitted to the Housing Commissioner of a district for approval when the scheme complies with the new regulations or by-laws, and when the whole of the cost would be borne by a private individual or colliery or other company?"

—A scheme which is not State aided should not be submitted to the Housing Commissioner, but plans should be submitted to the local Council in the usual way.

Concrete Block Making Machine.

ESSEX writes: "(1) Are there any machines capable of turning out a quantity of concrete blocks or bricks at the same operation? (2) If so, please give names and addresses; and (3) any other information necessary for the making of concrete blocks or bricks."

—Full particulars could be obtained in regard to these block-making machines by application to the makers, the names and addresses of whom will be found in our advertisement columns. Interesting booklets, which give instructions as to the working of the machines and particulars of the aggregates required may be obtained in this way. We have from time to time published illustrations and details.

Stresses on Roofs Carrying Shafting.

DORIC (Birkenhead) writes: "Can you give me information regarding the stresses set up on roofs carrying shafting? If you can mention any books dealing with this matter I should be obliged."

—We have no knowledge of any text-book giving this precise information. There are, of course, several text-books dealing with stresses in general, one of the most exhaustive being "Stresses and Thrusts," by G. A. T. Middleton, the fourth edition of which is published at 6s. post free, and which may be obtained from our publishing department. The stresses could be worked out in the usual manner, the necessary weights and other data being obtained in the case of the roof members from one of the many builders' pocket books, such as Hurst's, and in regard to the shafting from the manufacturers.

Glasgow Housing Exhibition: Notes on the Exhibits

THE Housing and Health Exhibition, now being held at the Kelvin Hall of Industries, Glasgow, was formally opened by the Lord Provost of Glasgow (Mr. J. W. Stewart) on October 8. Bailie George D. Morton, convener of the Exhibition Committee, presided. The Lord Provost said that the first instalment of the committee's scheme at Garngad was practically completed, and the committee had received the approval of the Scottish Board of Health to plans referring to 35½ acres, on which it was proposed to erect 3,513 houses. The Board had also agreed to site plans for an additional sixty acres, on which it was proposed to build a further 750 houses, and the lay-out plans were at present before the Board for approval. Further sites on the fringes of the city would bring the total area on which they proposed to carry out their housing schemes to about 4,000 acres. The construction of houses had been commenced at Coplaw Hill and Gilschochill. For other sites schedules for the contractors were being adjusted with the officials of the Board of Health. The committee were also considering how it might be possible to provide temporary accommodation.

Mr. J. W. Pratt, M.P., Parliamentary Secretary to the Scottish Board of Health, in moving a vote of thanks to the Lord Provost, said that the Scottish Board of Health were determined that everything on their part would be done to expedite and assist local authorities throughout Scotland to get on with this great task.

The Exhibition Described.

In spite of the railway strike, there is not a vacant space, and most of the stalls are exceedingly attractive. Of course, there are a number of manufacturing firms which show articles only indirectly of interest to architects and the building trades, but every building material is represented and sanitary appliances, heating plants, lighting installations, furnishings, and furnishings, and methods of decoration are all well represented.

The drawings and models, the result of the £6,000 offered as prizes, are exhibited, but owing to the terms of the competition many architects did not see their way to compete, and the result is sometimes somewhat disappointing; so much is this so indeed that in some instances the premiums have not been fully awarded. The names of the successful competitors were published in our issue No. 1,291, page 429.

The St. "Mungo" Cottage, built of concrete blocks, contains a living-room, a good-sized scullery, two bedrooms, and a bathroom. It is electric-lighted throughout, and in the living-room there is a coal grate which has a boiler placed behind to utilise spare heat and supply hot water to the scullery and bathroom. The designs were prepared by Mr. Robert Walker, Architect, Glasgow. Flye concrete slabs, made on the site in the exhibition buildings with a "Winget" machine, are used.

The cottage of Messrs. Speirs, Ltd., Glasgow, consists of three apartments, scullery, etc., erected on the "Plasmentic" system of rough-cast construction, one of the later developments of their "Speirsesque" types of construction. The construction consists of a wooden framework, braced and made rigid, the outer surface being covered with expanded metal steel lathing. Three coats of cement

plaster is then applied over the metal lathing, the last coat being pebble dashed or harled. The roof is boarded and covered with asbestos slates, and the interior finished with fibre board.

One of the cottages of Messrs. F. D. Cowieson and Co., St. Rollox, containing kitchen, living-room, two bedrooms, bathroom, scullery, etc., is constructed with hollow walls. It can be constructed with two or more storeys if desired, and can be erected in pairs, or in blocks of four, or more.

The exhibit of the Falkirk Iron Company, Ltd., Glasgow, includes the "Twin" hot-water system, which permits clothes to be boiled in the inner boiler while a supply of hot water for baths, sinks, and general domestic use can be drawn from the outer cylinder.

Henry Hope and Sons, Ltd., Birmingham and Glasgow, are exhibiting their all-steel cottage windows, manufactured to standard designs and sizes.

The Crittall Manufacturing Company, Ltd., Braintree, have an exhibit of steel furniture, metal storage, and equipment for use in office, factory, or home.

Vulcanite, Ltd., Glasgow, show their asphalt roofing felts and damp-courses, pure bitumen damp-courses, roofings and sheetings, and leatherite unsanded roofing felt.

The Leeds Fireclay Co., Ltd., are represented with their well-known wares. A little fireclay meat safe, meant to be built in the thickness of the wall, is most sanitary.

The Bitumen Products, Ltd., seem to be able to make anything waterproof, and in addition keep it so by the fact that while their "Rufoid" cement sets quickly it remains elastic, thereby allowing for contraction and expansion.

MacAndrew, Forbes, Ltd., London, show how suitable their Fiberlic building board is for all forms of decorative treatment. Fiberlic is made from strong root fibres, which during manufacture is treated to resist fire and damp, and can be used for internal fittings, lining walls and ceilings. It can be painted or coloured.

McDowall, Steven and Co., Ltd., Falkirk, are showing a selection of kitchen ranges, grates, boilers, baths, gas fires, and water heaters. A special novelty is the "Cottage" boiler and cooker.

The special exhibits of D. Anderson and Son, Ltd., Belfast, consist of a model of "Belfast" lattice girder roof covered with "Rok" roofing; a model of roof showing "No. 2 Stoniflex" and "Sanodor" felt used as sarking under slates; and a tank lined with their bitumen sheeting and containing two sections of brickwork standing in water, and showing the advantages of using Anderson's damp-course.

Winget, Ltd., London, have a good show of their well-known machinery for concrete construction work. The "Winget" outfit includes their standard machine, pressure machine, chain-spade concrete mixer, No. 1 stone breaker and crusher, and their "Winget" roofing-tile machine.

Bell's United Asbestos Co., Ltd., Glasgow, exhibit their asbestos cement roofing tiles and wall and ceiling sheets, which can be used for every variety of industrial and domestic buildings.

The fittings displayed on the stand of Shanks and Co., Ltd., Barrhead, Renfrewshire, consist of baths, lavatories,

w.c.'s, and sinks, ranging from simple expensive designs to elaborate, finished appliances. Examples are of fittings adopted by the District Building Materials Supply for Schemes.

Carron Company, Falkirk, are examples of goods specially adapted for housing schemes; also a variety of ranges, interior grates, mantels, and portable boilers.

The Davis Gas Stove Co., Ltd., London, exhibit their double cased gas convertible combination gas range, with high pressure boiler heated hot water circulator and cylinder, geysers, gas fires, etc.

Fletcher, Russell, and Co., Ltd., Warrington, show coal ranges, combustors and ovens for coal, and appliances of all descriptions.

The wrought steel cottage window patent sliding sash, which is being by James Gibbons, Wolverhampton, enables the outside windows to be opened from the inside of the rooms.

Sissons and Fewsters Scottish Paints, Glasgow, represent in Scotland a number of Sissons Brothers and Co., Ltd., and London, the sole manufacturers of Hall's sanitary distemper. They show "Oiac" enamel, "Rufoid" wood preservative, "Aperfectol" paint, and General Purpose or varnish, for outside and inside use.

The units on the stand of Pinchson, and Co., Ltd., London, give a pictorial illustration of the results achieved with paints, enamels, varnishes, and company's plaster panel screens. The structure show the colour scheme Deydol distemper, which is washable and hygienic. There is a special room revealing the surface produced with ette enamel, whilst the practical scheme associated with Minerva is clearly shown.

Thomas Main, Glasgow, exhibit "Main" basket nest slow combustion fireplaces, complete with mantelpiece fittings.

Major and Co., of Hull, are exhibiting their Solignum wood-preserving material. This material enjoys a reputation as wood preservative, but the makers emphasise its suitability as a disinfectant for ordinary household work.

John Wright and Co., Aston, Birmingham, display the new "Eagle" gas cookers, other cookers of approved types, and a wide variety of gas-grates suitable for every class of room.

Gas-heated apparatus of all kinds, ranges, cookers, fires, geysers, boiler water circulators, etc.—are to be seen at the Richmond Gas Stove Meter Co., Warrington. The "Lyn" boiler gives an ever-ready supply of scalding water with gas automatically controlled.

Tuke and Bell, London, are exhibiting with their semi-septic tank and draining apparatus for an aerobic filter, designed that chokage is entirely avoided.

As the committee say, "in this exhibition every opportunity has been given for displaying the ingenuity of the architect, the builder, the joiner, the plumber, every other tradesman in providing comfortable and commodious houses for the people, and, in addition, a number of the exhibits represented show what can be done under the most favourable conditions to realise the home ideal."

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ELECTRICAL NOTES.

Birmingham Electrical Scheme.

Birmingham Electric Supply Committee have decided to spend £120,000 in the purchase of equipment for a permanent generating station, to be erected at Nechells. This will include seventeen square wooden cooling towers, an elaborate set of coal-handling plant, etc.

Investigations in Chile, Peru, and Bolivia.

The Department of Overseas Trade (Development and Intelligence), and the British Engineers' Association will shortly dispatch to Chile, Peru, and Bolivia a joint investigator to ascertain the conditions and prospects for the sale of British Engineering products in that market. The cost of the investigation is being defrayed by the Association and His Majesty's Government. The subjects to be covered by the investigator include imports, shipping methods, Customs Tariffs, legislative regulations and restrictions, statistics, and competition. The investigation will include civil engineering, power plant and accessories, mining plant (not tools), plantation machinery, machine tools, vehicles (railway, road, water, air), electrical machinery and plant (not electrical accessories), agricultural and dairy machinery (not implements). Firms who are not members of the British Engineers' Association may participate in the enquiry on payment before the receipt of the first report of a fee of twenty guineas, provided they are British manufacturing engineers or ship-builders, or British manufacturers of articles necessary to engineering plant, or British companies, firms or individuals, who, while not possessing works of their own, hold patents or other proprietary rights in engineering plant or accessories and contract for the manufacture of their specialities with members of the British Engineers' Association. Any communication relative to this investigation should be addressed to the Comptroller-General, Department of Overseas Trade (Development and Intelligence), 4, Queen Anne's Gate Buildings, Westminster, S.W.1, or the British Engineers' Association.

Industrial Electricity in Italy.

The development of industrial electricity in Italy has been very considerable during the past twenty years, according to a correspondent to "The Times Engineering Supplement." In 1899 the number of works employing electricity as motive power was 2,286, whereas by 1911 the number had increased to 6,883. And in the same period the horse-power employed rose from 665,000 to 1,633,000, or an increase of 1,000,000 h.p. in round figures. The electric motor ordinarily accounts for over 50 per cent. of the power required for Italian industries, and another 20 per cent. is represented by hydraulic motors which also depend on water power. The rapid increment in electrical appliances in the Peninsula may be indicated in another way. In the financial year 1908-9 barely 1,098,000,000 kw. hours were consumed, of which 116,000,000 were for light and 982,000,000 for motive power; in 1915-16 fully 2,859,000,000 kw. were consumed, of which 216,000,000 were for light and heat and 2,643,000,000 for motive power.

To provide the immense amount of electrical machinery which will be required during the next twenty-five or thirty years will probably be beyond the powers of any one manufacturing nation. Undoubtedly British manufacturers could obtain a large proportion of the orders contemplated, but they will have to compete against the energy and the enterprise of German manufacturers. Up to the time of the war two-thirds of the electrical machinery and apparatus sent to Italy were of German origin, the native factories supplying the bulk of the balance. Little has hitherto been exported to Italy from the United Kingdom, and still less from the United States. There is reason to believe that a strong effort on the part of our manufacturers would succeed in capturing an enviable proportion of the orders about to be given out.

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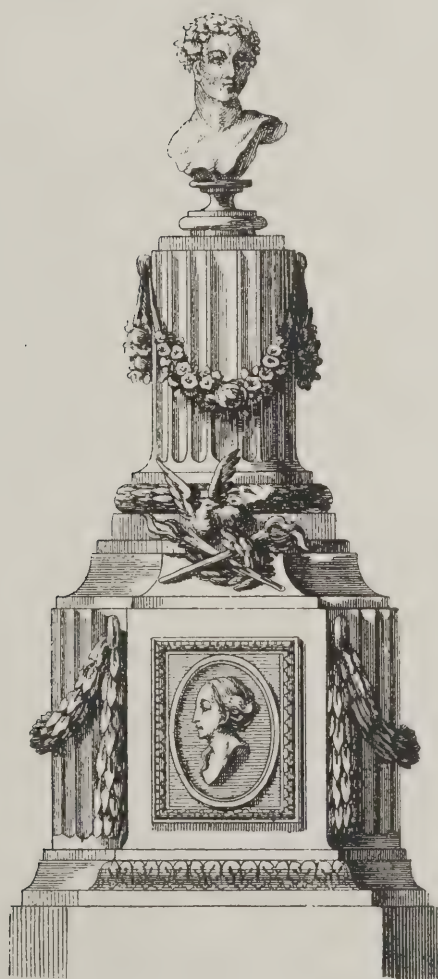
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Volume L. No. 1294

THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



DECORATIONS BY DE LA FOSSE (I.).



RECONSTRUCTION OF WATERLOO STATION, LONDON: MAIN ENTRANCE FOR FOOT PASSENGERS.

A. W. SZLUMPER, M.Inst.C.E., CHIEF ENGINEER. J. R. SCOTT, ARCHITECTURAL ASSISTANT.

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The Merits of the Low-Pitched Roof

POST-WAR conditions are likely to bring about a revival of the low-pitched roof, which has merits that have too long been obscured by the aftermath of the Gothic Revival. Our fathers, under the influence of J. N. Poyen and his ethnological theory, and the violent æstheticism of Street and Viollet-le-Duc, maintained heartily believed that Northern Europe could be covered soundly and æsthetically only by surfaces soaring well over 50 deg., and in a few cases over 60 deg. They talked of snow, and ignored wind; they talked of hygiene and sanitation, and believed themselves pioneers of the millennium in these respects. Yet they had no scruples in compelling their clients—or more especially their clients' maids—to sleep in rooms with any height or vertical surface, and often approached a jig-saw puzzle in the shape of the floor. This situation lives with us to-day.

We are determined to remedy the major evils of the steep roof; the ashlar shall not be ridiculously steep. By-laws very soundly insist on at least half of the height of the room being of reasonable height, and the rooms are schemed more or less rectangular, for the picturesque roof so worshipped some twenty years ago is realised as the reverse of a desideratum; but as yet a few of the bolder spirits have had the courage to uphold the tradition of their great-grandfathers and without bias the æsthetic properties of the low-pitched roof, in whose practical merits they are well versed, but against which they are nevertheless prejudiced.

These pioneers have found a chain of virtues to the mind, and soul of man that fully equal those that have long been presented, such as economy in building, an effective roof covering, and the bedrooms almost, if not entirely, vertical walled. They find that as convenience and economy in walling point to the compact rectangular plan, the breaks which are less suitable to a flat than to the high roof do not occur, and the simple rectangular plan logically falls into place. The old adage of "a dog a bad name" is brought before them at once, and the conviction is borne in upon them that the outcry against the flat roof is due to its having so often been mishandled; unsuccessful attempts have been made to mask it and to render it the Cinderella of the architecture. Whereas a steep roof will dominate a parapet, a flat roof will look merely as if an attempt had been made to hide it; more often than not a hip treatment is more satisfactory than a gable one, not because the eye finds the triangle unpleasant, but because it is rarely possible to obtain sufficient length to put the raking line in its proper position of subordination.

It may be taken as a principle that compromise in architecture is a failure in art. So with roof pitches; a roof must be either flat—that is, not exceeding 30 deg.—or really steep—that is exceeding 50 deg. There is no reason, except from a few patent tiles which do, in fact, please the eye at the pitch at which they are water-tight, why a roof should be constructed between these angles. Few architectural schemes can be imagined in which the inter-

mediate pitches would be of advantage to the use of the structure.

Until recent years most low-pitched roofs were covered with Welsh or American slates; but as a result of scientific invention roof coverings have multiplied greatly of late, and further developments will undoubtedly take place under the present economic pressure. However textureless these substitutes may be, they are to be welcomed, provided that they do not ape other materials—as so many new and good inventions do—are restful, and are the product of clear thought and good workmanship.

A roof is a hat to a building, and the small brim to the tall hat and the wide brim to the shallow hat are re-echoed in the world of building. Eaves should be wide-spreading. The open rafter eave is rarely satisfactory with a low-pitched roof and fascia, and boarded or plastered soffits are much more in tune, because with a low pitch the mystery of the overhanging steep roof can never be obtained.

Naturally, owing to the thinness of the covering, a verge looks mean unless reinforced by an oversailing course or boxed-in rafter.

A lead ridge is the pleasantest form, giving as it does a sense of security without the undue harshness of the built-up slate ridge or its more usual equivalent in tile earth; but should economy compel the use of such for the ridge, there is no need to give the roll to the hips, which, like the valleys, can be most satisfactorily treated by cutting and bolting the slates over a secret gutter.

Low-pitched roofs have many merits in the town and suburb. They would be more generally adapted to purely rural work but for the prejudice against them. The writer can name many villages where the slate roof of the late Georgian inn adds a dignity to the whole that lives long and lovingly in the memory.

The perfectly flat roof has not found favour in this country to any considerable extent, partly because of purely æsthetic objections to it and partly because of the trouble that has been experienced in making it waterproof. Flat roofs, however, have the supreme virtue of being economical in cost, and one architect in particular has used them with complete success in a large housing scheme near London. It is satisfactory to have his assurance that, although constructed of concrete, his roofs are entirely free from condensation on the underside—hitherto the principal drawback of flat concrete construction. To his roofs he added a low surrounding balustrade, which to a certain extent provided an architectural finish, though it did not wholly compensate for the effect that would have been imparted by a low-pitched roof.

In American towns all the roofs are flat and are covered with some variety of asphalt sheeting. A flat roof in towns, with a covering of permanite, or layers of tarred felting, has many advantages, not the least of which is that it enables all the rain-water to be carried down pipes into the gulley at the back, and so obviates the necessity for unsightly pipes.

Notes and Comments

Wooden Houses and By-law Relaxation.

Issue of the Ministry of Health's regulations with respect to by-law relaxation was the signal for entering on a new phase of the wooden-house "stunt." Of course, the new regulations are entirely wrong—utterly foolish if not guilty of wicked intention. If they had been otherwise, the "stunt" would have come to an end; the fire would have died out for lack of fuel. Therefore, it is expedient to carp and cavil at the new regulations, and to read into them all the guile that a well-seasoned "stunt-merchant" can insinuate. In preparing these regulations, the Ministry is shifting "the burden of responsibility for the lack of a cheap and quick way out" from its own shoulders to those of the local authorities. "If there is any delay henceforth, blame the latter." But, "as a matter of fact, it is still the Ministry that is to blame." Why, of course it is; the statement is a bald truism; for the purposes of this stunt the Ministry can do nothing right. And what, in this instance, is the particular crime of the Ministry? It is that a statement issued with the regulations has for its only effect "to prejudice wooden houses in the eyes of the public." For the Ministry finds, from inquiries that are not yet complete, that the cheapness of wooden houses has been much exaggerated. This is a truly remarkable discovery. Everyone knows that the stunt-merchant, in his rare lapses into slight inaccuracy, invariably errs on the side of moderation. Therefore, the statement by the Ministry that a wooden house approximating to the British standard in accommodation, fittings, and convenience, would very likely cost £700 or more is so utterly preposterous that it must not be allowed to go uncontradicted. It is a deadly menace to the community—or, what is infinitely worse, to the stunt itself. Any sort of old dwelling will do—cob, says one crank; rammed earth, says another; wood, yells the stunt-merchant. Unto this last has occurred the dazzling notion of demanding imperatively that the Ministry shall build houses of wood and do it now, overriding, we take it, the dilatory local authorities, and thus relieving the rates of a burden that is more cheerfully borne when imposed as taxes, but comes to a good deal more.

Chasing the £250 House.

Of course Dr. Addison has got into sad trouble with the stunt-merchant, the doctor having dared to say that he had received plans and specifications for a convenient house that, "all requirements having been reduced to a minimum, could be built for £688—or, with lighting, heating, and water-supply, for £721! so that "there appeared to be very little difference between the cost of a wooden house and that of a brick or wooden one." This rather staggered the stunt-merchant: but only for a moment. As soon as he got his breath back he rushed off to a gentleman in Clement's Lane, who at once administered a soothing draught. He "ridiculed" the suggestion that a wooden house cannot be built for much under £700. (A gentleman taking sides on a contentious issue is invariably reported as "ridiculing the suggestion.") And he is represented as adding that "for £250 a wooden house from U.S.A. could be delivered in this country which would provide a living-room, three bedrooms, and a kitchen, with a neat veranda." Clement's Lane, or its reporter, is a little obscure in this statement, which, taken quite literally, means that this country would provide the accommodation, including a "neat veranda." But carping at weak syntax is but a poor pastime; and dismissing as improbable the supposition that the "neat veranda" is thoughtfully thrown in to indicate that the wooden house was a dwelling and not a dog-kennel, we pass on to this desolating qualification: "For more elaborate structures, prices would range up to

about £750." No doubt they would. But Clement's Lane was mild as compared with the architect who said that a wooden house can be built for £197 10s., timber for it costing but £146 for 12 tons 8 cwt. compared with £350 for 4 tons 10 cwt. of timber for a wicked brick house. As the figures have been set in pomp and circumstance as having been checked by firm of quantity surveyors, it would be heresy to dispute them. Yet we cannot see quite clearly why the "pipes" which are credited with £12 10s. for the house should, for the wooden house, be written off as "included in timber."

Inflated and Deflated Prices.

Dr. Addison, in his address delivered at the office of the Ministry of Health last Wednesday, had some reassuring news to deliver. He demolished the claims of the stunt-merchant who claimed to be able to provide houses at that figure would come and do so, but they had not responded to his invitation. He admitted that the fact of the matter was that the wooden houses which it had been stated could be provided at £250 were not houses at all—merely four walls and a roof. With the equally gross exaggeration of the cost of houses of ordinary material Dr. Addison dealt not positively, declaring the suggestion that some of the houses it was proposed to erect would cost twelve hundred pounds was entirely wrong. tenders that had been accepted up to the present time averaging about £1,000 each house. All this is very unwelcome news for sensation-mongers, who, in face of it, can hardly get screaming out hysterically that the Government must build wooden houses at £250 each, but, "wastrels" as they are, prefer to build brick houses at £1,200. perfectly fair and candid, Dr. Addison should perhaps have stated that several local authorities—Woking, for instance—had resolved to build houses at a thousand pounds each, or thereabouts; but Dr. Addison's figure of £690—is positive and explicit, although he was forced to admit that this is "an appalling figure," and is still rising.

A Possible Way Out.

About a hundred representatives of the building industry were received in conference last week by Dr. Addison, who was told, for the good of his soul, that "builders could obtain materials more cheaply than the Government, could make better use of them, and could reduce the purchase price of houses. Expert opinion ought not to have been necessary to state categorically an obvious truth. It may have been worth while to do so, however, since the occasion was seized by Sir Henry Holloway to put forward a powerful plea that the private builder might be given a free hand, and good competition in house-building restored. "With first interference ended," Sir Henry said, "houses would be speedily forthcoming, with very slight encouragement." This plea that building experts should be given a fair chance to show what they can do—a common-sense arrangement that we have advocated from the outset—was on this occasion found to be irresistible, and a committee to assist Sir James Carmichael (Chief Housing Commissioner) and the officials of the Ministry of Health with suggestions and details for working out a scheme to enable private builders to erect and sell houses to local authorities was forthwith nominated. It comprises well-known names as Sir Henry Holloway of London, Mr. R. C. Costain of Liverpool, Mr. Norman McLellan of Manchester, Mr. A. Waddington of Sheffield, and Mr. H. M. Grant of Sheffield. These gentlemen may be trusted to see to it that the architect is fairly treated in the schemes that are to be carried out by private builders. Nevertheless, it would be good for this movement if the architect were to keep a watchful eye on it, as the spec-

builder in times past has shown no marked anxiety to seek the assistance of the architect for the design of houses, and this reluctance has had results which I know and deplore.

Estimated Cost and Actual Figures.

William Woodward, F.R.I.B.A., having stated earlier to the "Daily Telegraph" of October 11 that he "came to the conclusion that, including all the necessary expenditure with regard to roads, sewers, fences, etc., no house could be built on the actual lines of that proposed by the Ministry of Health for the sum of £1,200," Mr. Edmund R. Abbott, President of the Town Planning Institute, replies, in an issue for October 16 of the same newspaper, with actual detailed figures of contracts for three schemes in the Greater London area. In these three schemes, the average cost per house works out at £891, £921, and £921 respectively. These figures are neither too high nor too cold. They do not help either Dr. Addison or his opponents; but, being actual, they demonstrate the futility of estimating in the air. Local circumstances would tend to the power, it would seem, to influence prices to a considerable degree, those in one district being some- times nearly twice those in another. To get rid of all uncertainty and wild guesswork, to bring the markets to a normal poise and balance, it is only necessary to follow Sir Henry Holloway's advice and set them free.

The Prime Minister on Production and Co-operation.

Lloyd George's speech at Sheffield was full of so much tersely phrased. That we must work more productively than ever we have worked before, increasing national income by increasing national production, that the first condition of productivity and prosperity is peace at home and abroad, are familiar enough propositions, but there are few who can make them so clear and convincing as the Prime Minister can, with his almost unexampled gift of lucidity of statement. The State must have confidence and labour must have confidence. Labour must have confidence that it will share the rewards of prosperity. It must be treated as if it is a real partner in the great business of Great Britain. The employer, employer and workman, must make greater efforts to secure co-operation." Our pre-war national income of six hundred and forty-five millions was a mere trifle compared with the present stupendous figure of over a thousand millions. "That is the problem—heavier demands than before the war, shorter hours, a better standard of living for millions more men and women. Can we live it? There is only one way. You must increase national income, and you can only do it by largely increasing the national production." True; and the means of increase must be secured by unrestricted co-operation. Capital and Labour, as Mr. Lloyd George generally comes to an understanding when they are brought together. "It is aloofness, the brick-wall screen which has created the trouble. Let them try to understand each other's point of view and then work to lift this country through and above its difficulties on to a height of prosperity that it has never seen before." Then there is the obsolete machinery that ought to be scrapped. We fear, is especially the case with the plant and equipment of builders, which commonly tends to rust out rather than to wear out, and is kept to its casual employment long after it has become obsolete, to the great dis- advantage of invention.

Industrialising Stratford-on-Avon.

At "Shakespeare was a good business man, and I do not have objected to the erection of a factory" at Stratford-on-Avon, was an assumption put forward by the Council at the inquiry opened last week into the proposal to build six acres and a half within the borough to a Birmingham firm of workers in aluminium. The scheme has been vehemently opposed because some folk had feared that it meant blast furnaces and chimney-

stacks, but this was a mistake; the works would be smokeless and noiseless. Still, once a factory is put up one does not know to what base uses it may be ultimately turned; and this factory is distant no more than 1,080 yards from Shakespeare's birthplace, and a mile from Anne Hathaway's cottage. One witness waxed very wise when told that there are many people who strongly object. "No," he said, "not strongly—principally sentimentally." Justice Shallow himself could not have made a more fatuous observation. Sentiment rules the world, and is stronger than death.

Whitgift Hospital Spared.

Last week the Croydon Borough Council rejected, by twenty-five votes to twenty-four, the statutory resolution proposed for going to the Home Office for power to widen North End under a scheme which would involve the demolition of the Whitgift Hospital—a scheme that a month ago was adopted by twenty-six votes to seventeen, but it is comforting to get the gloss on these menacing figures that the scheme could not have become operative until twenty-nine members had voted for it. In common with almost the entire Press of the country, we have always strongly opposed the determined and repeated efforts to get rid of this beautiful specimen of Elizabethan architecture, and are therefore greatly rejoiced that its threatened demolition has been again averted. But it will be impossible to feel quite comfortable about it until Parliament carries out the suggestion of Sir Martin Conway that the powers of the Ancient Monuments Department should be extended to make such scares impossible.

A £200,000 Competition.

Architectural competitions having become so rare, that that which is being arranged for the design of up-to-date departmental stores for Leeds will no doubt attract many candidates, especially as four premiums are offered, ranging from a hundred and fifty to fifty guineas. It is a limited competition, Sir John J. Burnet, LL.D., R.S.A., having been appointed as assessor to advise the promoters in the selection of names for the "short list." A £200,000 building is required, and candidates for the competition will surely be puzzled to know what can be done with the money; present cost bearing no very accurately determined relationship to pre-war prices, and being liable to harassing fluctuations from time to time. Whether in the near future they will go up or down, or whether any given class of material is stabilised better than another, it is difficult or impossible to ascertain, while the cost of labour is complicated by its scarcity and the consequent competition for it. But, after all, the design is the thing, and it will be interesting to see what effect the prevailing conditions will have on it; this being the first considerable competition (except those for housing) since the war.

The Royal Academy Exhibition of Memorials.

As far as can be judged from a cursory glance round at the Royal Academy Exhibition of Memorials, of which the Press view was accorded last week-end, the public being admitted this week, there is but little in it that comes up to expectation. Although it certainly does not lack variety, all the traditional methods of almost all periods and countries being pressed into service, it shows, on the whole, the poverty of invention that this reversion to worn-out traditions may be held to indicate. Not that we have here an occasion for straining after novelty; but it may be said justly enough of the majority of the exhibitors that they have been too faithful to accepted forms or fashions, and do not seem to have been inspired by the greatness of the occasion; perhaps it overwhelmed them by its stupendousness. An exhibition of this kind, however, fills a very useful purpose if only it shows what is for avoidance. But we hope to be able to notice the exhibition more at length next week.

Architectural Causerie

I AM now in a position to give a short account of a survey of London in Essex, which began with a visit to an eastern suburb and ended with an inspection of the town of Rochford. The extraordinary thing is that I have conceived a partiality for Essex, not, let it be imagined, for the sporadic growths of mean brickwork near London, but for the stronger reason that the county as a whole retains its original charm. My survey began east of the Tower of London, among the curious alleys, streets, and squares of Ratcliff, where I found it possible to nod to houses familiar to Defoe, to recognise landmarks immortalised by De Quincey, and to pay respect to the huge churches, wisely provided by the ubiquitous Anne, that ride like tall Indiamen above the sampans. Let it not be thought that the Swedenborgian brig escaped my eye. At first I made my way on foot to see the sights close to, and afterwards I rode from Fenchurch Street high above the maze of chimneys, steeples, masts, and smoke.

For the past century Greater London has favoured the setting sun with its attentions, principally in the direction of rural spots on the upper reaches of the Thames, but also following the South-Western and Great Western lines towards the regal country of Hampton and Windsor. There have been abnormal developments to the south, for the Londoner of Victoria's day delighted in spreading his green carpets from Brixton to Caterham. Thirty years ago Clapton and the Green Lanes marked the limit of expansion north-easterly, the Tottenhams and the Wood Greens attending to the introduction of the steam tram. Even the piercing of the northern heights in the late 'sixties failed to attract citizens in numbers beyond the groves of Highgate and Hampstead; but the borings of the last decade have changed this. To-day rural London, formerly five miles from Charing Cross, has ceased to exist. Harlesden has been linked to Harrow, Highgate to Barnet, with threats to St. Albans, Finsbury Park to Cheshunt, persistently outflanking the retreats of the Lea.

Due east the growing streets have been sanctioned on lines of ill-considered economy, as though the projectors feared to waste an inch of space. I am not speaking of the haphazard operations of the 'fifties or the early days of the North London Railway, when Bow was thought to be a desirable suburb. I refer more particularly to the later growths of the Hams, Ilford, and Barking. Here the human hive is closely celled, each section of the comb adding to the intricacy of the pattern. There are pleasanter ways out of London than Fenchurch Street affords, but few lead to the real country so quickly, for at Barking, London having swallowed up the remains of an abbey and almost obliterated the features of an Elizabethan tower, hesitates to advance, as though fearing the challenge of Eastbury, solitary sentinel watching country once congenial to the Tudors. The sensation when one views the outer deformities of the metropolis from the roof at Eastbury is uncanny. Within a rifle shot London halts. I would that her further progress respects the boundaries and walls of the old manor.

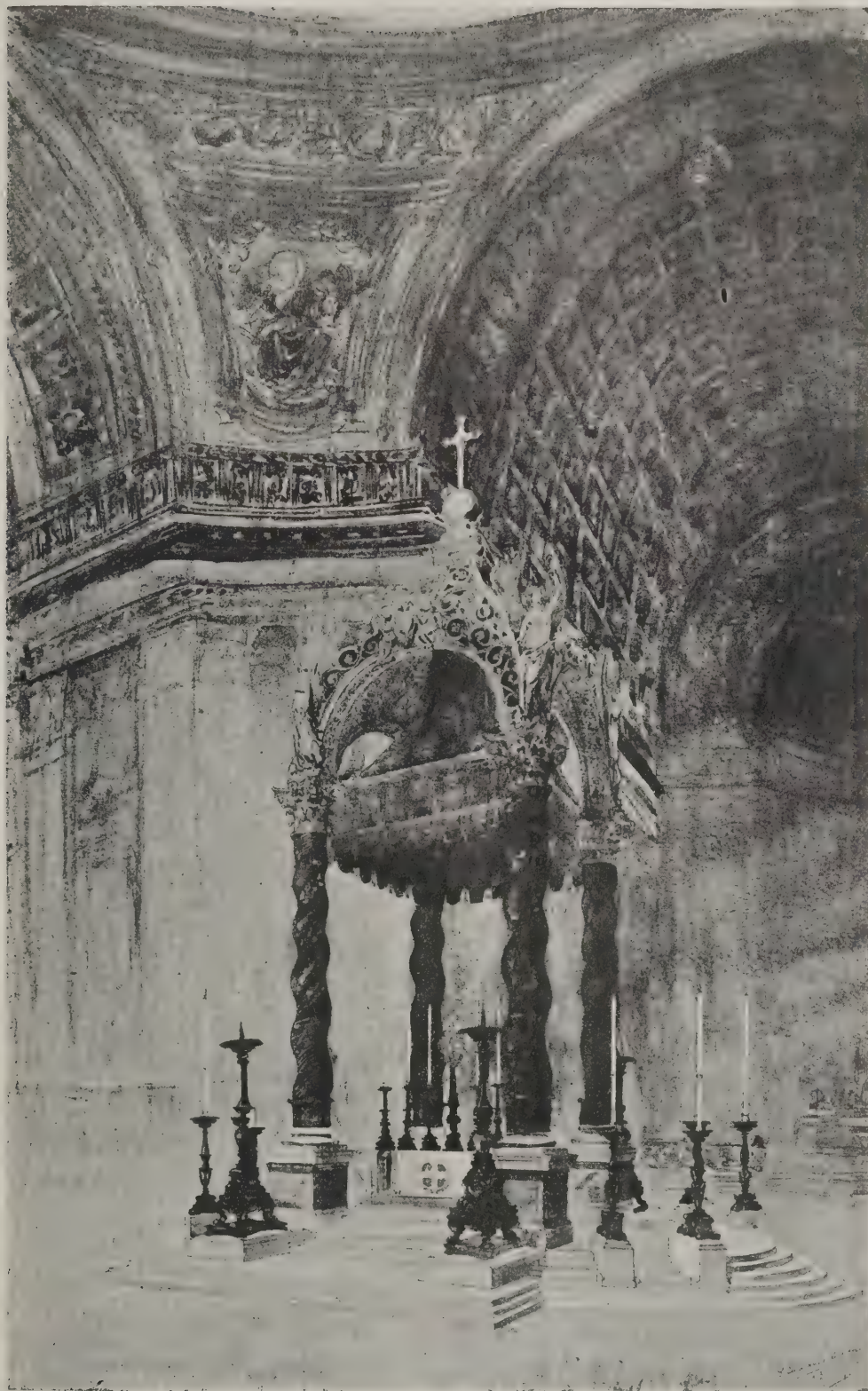
So far my chat has been in the nature of a preamble; it has been essential to the introduction of my subject, which is to prove that London has not thrown out writhing tentacles towards Essex, because the flats and marshy ground, mists, and damps of the river did not appeal. London proper halts at Barking. I shall mention the excellent garden villages of Romford, Gidea Park, and Upminster as isolated attempts to cater for pressing needs. London has a special gift of self-preservation; while her pontiffs dreamed she threw out an eastern satellite forty miles from Temple Bar, as an

earnest of her allegiance to Neptune. During my survey of the part of Essex adjacent to the river I met many things of interest to my architect friends, but must be discussed in the near future. I had heard a great deal about Southend, Westcliff, and Leigh, mostly disparaging to these holiday places, but people have not troubled to investigate their true relation to town life.

Southend first became known to Londoners as a watering-place when Somerset House was building; it consisted of a few weatherboarded houses, with two on the front almost on a level with the sea at high tide. A few farmers and their families from the neighbouring Chelmsford and Rochford enjoyed the hospitality of the Ship Tavern and the Hope Inn. Preventive medicine was an eye on fishermen and farmers, for many a roll of Mechlin lace and kegs of Hollands came into Essex by secret ways. Ten or twelve years passed, with occasional visitors from London, ordered by the doctors to undergo the rigours of sea bathing. Two years prior to the French Revolution building speculators began operations on the clayey heights above the fishing hamlet. A terrace called New Southend was started, comprising a series of leasehold houses, with appropriate architectural features, such as wooden pilasters to the centre houses, elegant doors, and a mutular cornice to the whole range. By 1793 some of the houses were completed and ready for occupation. The hotel at the eastern extremity of the terrace, with the Assembly Room, being finished some years later, by reason of the failure of the original proprietors. The property in 1799 belonged to a Mr. Thomas Holland, but it was put up to auction at Christie's on June 20, 1800, and sold to James Heygate and John Thomas Hope. The wonder is that it was not raffled. Like most speculative schemes of this nature time alone was necessary to the success of the undertaking. The coach proprietors of London, however, were awake to the possibilities of the area, and at the close of the eighteenth century two coaches set out daily from the Bull and the Blue Boar, Alcock, but the mails were restricted to a delivery four times weekly.

One June day a hundred and nineteen years ago a plain bottle-green travelling carriage with four horses, postillions, and outriders might have been observed leaving the porte cochere of Carlton House, carrying the infant Princess Charlotte of Wales and her mother, on route through the City to Barking and Southend, for the Royal physicians had ordered a course of sea bathing for the delicate child. The Princess, then five years of age, stayed at Southchurch Lawn. Three years later the Princess Caroline and her daughter spent three months at Southend, on this occasion occupying the pilastered houses in the centre of the terrace. A brass door-knocker with twin sphinxes is practically the only relic of their stay. The popularity of the place increased from that time; the Terrace and hotel received an appellation, and soon a fashionable company resorted to the new bathing-place. Sir Thomas Wilson, of Langham, and others purchased some of the houses, according to a writer of 1812, "the lower orders of the community had not as yet obtruded themselves as a commodious bathing station. I wonder what the opinion of the departed fashionables would say if they viewed the present state of the Terrace on a Bank Holiday."

When the railway crept along the Essex flats through Barking, Upminster, and Hadleigh to the Forts of the River, New Southend expanded in a wonderful way. An attempt was made to pick up the traditions of the Terrace. Hackney, Bow, and Highbury Park first came out of town in all the splendour of Victorian rectitude.



SKETCH DESIGN FOR A BALDACHINO IN A CATHEDRAL.

(Architectural Association Schools.)

enterprising architect attempted a block of buildings in the early manner of Norman Shaw. The High Street blossomed into shops, the Gothic Library disappeared, and three wooden hards gave place to the concrete of the present iron platform over the mud. As the cars passed the Great Eastern Railway flung out a spur-train from the main line to take in Rochford and Westcliff, for Liverpool Street suddenly became jealous of the riverside line. Gradually Southend expanded, and the new line began to understand the beneficial breezes of the Thames Estuary. Walthamstow, emulating Stoke Newington and Clapton, sent building ambassadors to the heights of Westcliff, and give new life to

the fishing hamlet of Leigh, and a few enterprising people from Hampstead and Bedford Park followed in pursuit. The aspect of the three divisions of Southend to-day reflect the growth of suburban London in a curious way. There is no particular style about the conglomerate of streets other than that all bear the marks of Cockney parentage. Some of the small semi-detached villas occupy plots twenty-five to thirty feet wide, and, as far as planning goes, they are marvels of ingenuity. Where architects have given a magic touch the character of individual houses is singularly appropriate, but for the majority it might be said the Hebrews have no architectural style. AERO.

The Educational Policy of the Architectural Association

In the education of the architect the problem has always been to combine efficient training from a practical standpoint with the widest possible learning that should become a professional man. To-day the enormous range covered by architecture has been intensified, and the Architectural Association, so closely concerned with education, have embodied thought and labour on a new policy and a new system for their schools.

Maurice Webb, in his Presidential address, said of architects "perhaps more than for other professions the time had come for a progressive policy, "for a prompt towards greater efficiency and breadth of outlook."

It is generally recognised that in London the old system is passing away. But if a school's object is to take its place adequately that course must cover the whole field of professional practice. Broadly speaking, the policy of the Architectural Association is to provide in its ordinary three-year course the best average of professional qualification, and something more besides, namely, for each student, a starting-point for some advanced subjects of his own. But a step has been taken. A continuation course of two years is arranged, in which a student may take advanced subjects and make himself proficient in them. The list of subjects is as follows:

Housing and communal planning.

Modern construction.

Decoration.

Business methods of organisation.

Advanced design.

Students are strongly advised to take the whole five-year course wherever possible. In every subject the first course is to include practical training on the spot or in offices. A diploma is granted to successful students at the end of the advanced course, which is to them the important privilege of exempting the bearer from certain portions of the Institute Final. Among advanced subjects great importance is attached to housing and communal planning." Quoting from Mr. Webb's address: "All students should, I think, take the course on housing. In the housing question the greatest post-war opportunity is already opening for students to be of use to the State. Make the very most of it; you can learn here about it."

Under the expansion of the course to five years the system of tuition throughout has been made more elastic. The arrangement of "sets" a student can advance in a subject according to his individual capacity in that subject independent of his progress in others. In the teaching of design the esquisse system has now been in vogue for some years, and has been developed for the needs of the London schools by Mr. Robertson and his colleagues.

The system consists in setting a subject in design without previous intimation, and allowing the student a period of twelve hours in which to prepare a sketch

scheme or esquisse without the aid of criticism or reference. This is followed by a second period of two or four weeks, in which the initial sketch, the original work of the student, is developed with all the assistance obtainable. At the end of the second, the subject is wound up by a "criticism." This consists in an exhibition of all the developed drawings set beside their original esquisses and compared by the head master, or by some visiting architect. It is claimed for this system of tuition that the student's powers of originality are developed equally with his knowledge of styles and buildings. In preparing the esquisse he is thrown entirely on his own resources. He is taught to grasp the essentials of a problem rapidly, and to express his own ideas concerning it. As any problem may be set before him without references, he is stimulated to interest himself in all architectural subjects, and to employ his memory on essentials rather than on details.

The old evening school, intended for men who had not taken the day school, is now discontinued, and in its place the atelier has been reinstituted, and has had special attention given to its organisation. The atelier provides accommodation and facilities for the study of advanced architectural design. As the time for study is not in any way restricted it is possible for those engaged during the day to make use of the atelier in the evenings and week-ends. It is open to all students who have passed the three years' course of the Architectural Association, and to others who have attained a similar standard of efficiency, subject to the approval of the patron, Mr. Hobert Atkinson, F.R.I.B.A. The atelier is to be under the direction of Mr. H. M. Robertson, Architecte Diplômé par le Gouvernement, Registered Architect, New York State. Students may attend the twenty-four lectures in design given by Mr. Atkinson in the day school of the Architectural Association.

But perhaps the greatest change involved in the new policy of the Architectural Association is the opening of the schools to students other than those who intend to make architecture their profession. Admission is now granted to students entering any of the arts, professions, or businesses connected with building, such as painting, sculpture, surveying, building, and such students are allowed to take any portions of the courses that may suit their requirements subject to the approval of the head master. By this arrangement it is hoped that those engaged in the various activities connected with building may be brought into closer touch with each other, and that in course of time a better understanding of the difficulties of each may be arrived at. Mr. Robert Atkinson is now in America studying on behalf of the A.A. the practical application of the French Beaux-Arts system to American needs, and it is hoped on his return that he will have acquired much that will prove of value to those who are endeavouring in this country to bring architectural education into line with the needs of the day.

[The educational policies of various other architectural schools will be set forth in future issues.]

Old Wooden Cottages at Epsom, Surrey

By JOHN PIPER

THE style of building in the various counties and districts of England is naturally greatly affected by the ease with which the different building materials can be obtained. In the Cotswold Hills, for instance, stone can easily be procured, and the buildings are, therefore, almost entirely of that material; while in a district situated upon clay, brick is of course largely in use. In Surrey, a large part of which is covered with trees, wood has always been extensively used in the construction of domestic buildings. In the olden days cottages and smaller houses were usually built in the style now known as "post and panel," or "half timber," in which the spaces left between the beams were filled in with bricks, or occasionally flints. After a time timber became dearer and more bricks were used. Then all materials became dearer still, and we find that at the end of the eighteenth and beginning of the nineteenth century, in the districts where wood was more plentiful it was entirely used in the building of many of the cottages. There are apparently two great disadvantages to construction entirely of timber: (a) Draught, and (b) the short time in which the temperature of the building is affected by change in the weather.

Some of the best examples of old wooden cottages in Surrey are in the neighbourhood of Epsom. At Woodcote, to the south-west of this town, one group of cottages has a particularly ancient appearance, but it is probably not more than 100-120 years old. The walls are of two thicknesses, the inner of lath and plaster, and the outer of planks overlapping one another, and about 8 in. in width. The space between the two thicknesses is not, apparently, filled in. The floors are also of wood, and the doors have an ancient and battered appearance. It is almost impossible to tell the kind of wood with which these cottages are built, as they have been covered with so many coats of paint at various periods; but it is possibly elm, as these trees are very plentiful in the district.

There are other similar groups of cottages in the neighbourhood; and the picturesque old "Amato Inn" near-by is entirely timber-built.

At Ewell, a mile to the north-east of Epsom, are numbers of old timber houses and cottages, but many of



THE AMATO INN, EPSOM.

these have a far less ancient appearance than already described. At Cheam, further to the east, a beautiful old wooden house known as "Whitehall," built from the sixteenth century. These old timber houses and cottages are of special interest at the present time in view of the removal of restrictions on building with wood.

It has been suggested that cottages of the same type as those described should be built, but with a roof of galvanised iron, and a thin coating of thatch, fixed by means of planks bolted to the ends of the iron rafters. This, besides being pleasing to the eye, would be better and the iron would render it moderately non-combustible. The thatch also would break all sound if hit by hail. It would be interesting to know if there are any objections to this.

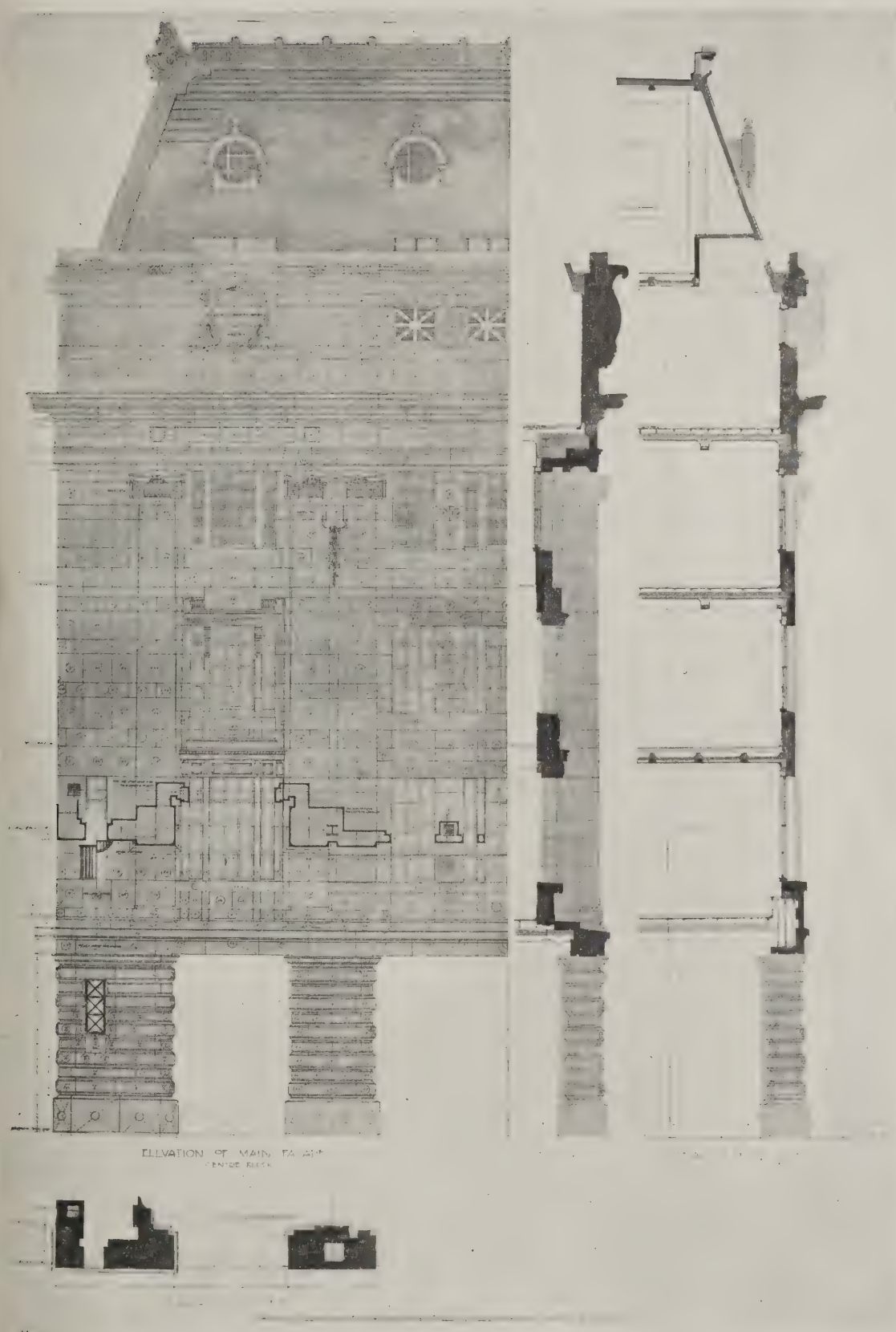


OLD TIMBER COTTAGES AT WOODCOTE, EPSOM.



CONSTRUCTION OF WATERLOO STATION, LONDON: DETAIL OF PRINCIPAL ENTRANCE FROM APPROACH ROAD.

A. W. SZLUMPER, M.Inst.C.E., CHIEF ENGINEER. J. R. SCOTT, ARCHITECTURAL ASSISTANT.



RECONSTRUCTION OF WATERLOO STATION, LONDON : DETAILS OF MAIN FACADE.
A. W. SZLUMPER, M.Inst.C.E., CHIEF ENGINEER. J. R. SCOTT, ARCHITECTURAL ASSISTANT.

Notable Glasgow Buildings

(Concluded from page 478, No. 1293.)

Buildings in Glasgow Dating Before 1900 with the Names of Their Architects.

m, R. and J.—Trades House, Glassford Street.
Houses in Charlotte Street (c. 1793).
erson, Sir R. Rowand.—Govan Parish Church.
Station Hotel.
he and Tennant.—College and Kelvingrove U.F.
lay, H. and D.—St. George's-in-the-Fields
Church. Glasgow Academy, Kelvinbridge
Hillhead High School.
cher and Cousland.—St. George's and St. Peter's
Church. Renfield U.F. Church, Bath Street.
e, Sir William, of Kinross.—Bridgegate Steeple
et, John.—Stock Exchange (1878). Western
ury. Eye Infirmary, Berkeley Street (1874).
ands U.F. Church. Clydesdale Bank, St.
Place (1872-74). Union Bank, Ingram Street
Elgin Place Congregation Church (1856).
et, Sir John J.—Barony Parish Church (1889).
eum, St. George's Place and Buchanan Street
Atlantic Chambers, Waterloo Street. Clyde
Offices, Robertson Street. Savings Bank,
Street (1896). Charing Cross Mansions
Station at Glasgow Cross.
pbell Douglas and Sellars.—New Club, West
Street. "Herald" Buildings, Buchanan
Wylie and Lockhead's Warehouse, Buchanan
Victoria Infirmary, first portion (1887).
riars Parish Church (1877). Queen's Park
Church. Hillhead Parish Church. St. Enoch's
Church. Finnieston U.F. Church. Hillhead U.F.
Belhaven U.F. Church.
Robert W.—Conservative Club, Bothwell
(1893).
pie, Graham, J.—St. Andrew's R.C. Cathedral
ulton David.—Gorbals Parish Church. St.
s Parish Church (spire dates from 1727).
shed Church Normal School (1827). Hutche-
Hospital, Ingram Street (1803-5). British Linen
Queen Street (upper storeys by James Salmon
n).
of Liverpool.—Claremont U.F. Church.
eyman, John, LL.D.—St. Silas English Epis-
Church (c. 1863). Trinity Congregational
(1865). Partick High U.F. Church. Barony
Church. Westbourne U.F. Church. Cathedral
U.F. Church.
eyman and Keppie.—School of Art, Renfrew
"Herald" Offices, Mitchell Street.
hison, John.—Norwich Union Buildings, St.
Street.
er, William.—Dowanhill U.F. Church. Camp-
Church. Hyndland Established Church. Sun
ce Building, Renfield Street (1893). Temple-
Hills, Glasgow Green.
ibbon, William F.—Corn Exchange, Hope
(1896).
issack and Rowan.—St. John's Wesleyan
Pollokshields West U.F. Church.
aughtan, D.—Baltic Chambers, Wellington
Whannell and Rogerson. Samaritan Hospital,
Road.
r, James.—Botanic Gardens, Railway Station.
Station, St. Enoch Square. Caledonian
ns, Kelvinbridge.
ell, Sydney.—Commercial Bank, Gordon Street
olson, Peter.—Carlton Place.
ie and Washington Browne.—National Bank
land, St. Vincent Street.

Paterson, A. N.—Eye Infirmary, Charlotte Street.
Rhind, David.—Commercial Bank (old portion,
1857). Scott Monument, George Square (1838).

Rickman, Thomas.—Ramshorn or St. David's
Church, Ingram Street (1826).

Rochhead, John T.—St. John's U.F. Church (1845).
John Street U.F. Church. Park Parish Church. Sandy-
ford Parish Church. Queen Margaret College
(originally North Park Mansion House).

Salmon, James and Son.—Office Block, 53, Both-
well Street.

Skirving, Alexander.—Langside Parish Church.
Langside Hill U.F. Church. Battlefield Memorial,
Langside.

Simpson, J. W. and W. Milner Allen.—Fine Art
Galleries and Museum, Kelvingrove Park (1893-
1900).

Stevenson, John J.—Kelvinside U.F. Church.
Stevenson Memorial Church, Belmont Street. Cow-
caddens U.F. Church. Claremont Street Wesleyan
Church.

Thomson, Alexander.—Caledonia Road U.F.
Church. Queen's Park East U.F. Church.

Thomson, James.—Lancashire Insurance Buildings
(1897). Standard Insurance Buildings (1891).

Thomson and Sandilands.—Royal Insurance Build-
ings (1897).

Waterhouse, Alfred.—Prudential Insurance Build-
ings (1892).

Watson, Thomas L.—"Citizen" Office (1891),
Adelphi Terrace School (1894). Adelaide Place
Baptist Church. Hillhead Baptist Church.

The Plates Described

New Office Buildings at Waterloo Station.

WE publish in this issue plans, elevations, and
photographs of the new office buildings now in
course of erection at Waterloo Station, London,
for the London and South-Western Railway Company.
In the centre portion the new office buildings, which are
850 ft. long, consist of five floors, excluding the base-
ment and mezzanine floor, and large tank provided on
roof. The plan, reproduced on pages 510-11, shows the
accommodation provided for the general public, and the
other floors, with the exception of the dining-room and
tea-room, which are situated on the first floor, are for the
use of various administrative departments. The main
entrance for foot passengers has been dedicated by the
directors to the men of the company who fell in the war.
As will be seen from the illustration on page 494, the
sculptural decorations consist of three groups, two of
which are semi-circular in composition, placed on pylons
either side of the arch. On the left the central figure
represents Bellona, the Goddess of War, wild and dis-
traught, clad in scaled armour seated astride the world,
and with flaming torch and naked sword, dealing death
and destruction. Peace, the central motif of the right-
hand group, is seen seated and enthroned upon the earth
and holding a palm branch and small figure of winged
victory symbolical of victory. Britannia, seated and
triumphant, holding aloft the torch of liberty, surmounts
the whole. The inner arch over the main entrance is
decorated with war trophies and panels, surrounded by
laurels bearing the names of the countries in which the
men have fought. Messrs. Farmer and Brindley are
executing the sculptural work, the figures being modelled
by Mr. Charles E. Whiffen, a member of their staff. The
architectural work was designed by Mr. J. R. Scott,
architectural assistant to Mr. A. W. Szlumper
M.Inst.C.E., chief engineer, and the work is being
carried out under the direction of Mr. R. D. Hawes,
A.M.Inst.C.E., assistant engineer for new works.

A.A. School Designs.

These designs should be studied in conjunction with
the article on page 501.

Sir Charles Ruthen's Experiment in Rapid Cottage Construction

SIR CHARLES T. RUTHEN, O.B.E., F.R.I.B.A., M.S.A., in reading a paper on "British House-Building Methods" before a meeting of the Society of Architects on October 16, gave an interesting account of the method of rapid construction adopted for the houses erected at Newton, Mumbles, near Swansea. The three types of house, A, B, and C, referred to by Sir Charles Ruthen were illustrated in THE ARCHITECTS' JOURNAL, issues Nos. 1291 and 1293. After giving a concise resume of the housing problem of to-day, and indicating the facilities available in building labour, materials, and methods based upon pre-war conceptions and ideas, Sir Charles Ruthen said that the houses erected at Newton, near Swansea, complied with all the essentials necessary for the provision of homes for the people, and were cheaper than brick or stone houses, and had the added advantage of rapidity of construction and completion fit for occupation. The first, Type A, erected and completed in thirty days, was an example of typical house construction, adapted to suit English tastes. Type C had a single-brick veneer upon the outside to pander to the conservative British taste. The feature was, in his opinion, an unnecessary expense, adding slightly to the time of erection and did not improve the weather-proof qualities of the house.

The third type had a single-brick veneer to the first-floor level and half-timbered work above. Both these features may add, in the opinion of many, to the beauty of the house, but from the point of view of the home within both were unnecessary and added to the cost and time of erection. (Type B.) All three types had wooden frame work as the main skeleton. The first type was, in his opinion, the type that should be adopted in this country in the present emergency. Types of American residences, etc., had been erected in a manner identical in construction to that applied in the erection of the house at Newton. To architects the general method or principle was not new in any sense, excepting as applied to residences of the ordinary kind, and similar buildings, and but for that rooted objection in this country to any new form of construction, such a method would undoubtedly have been in use long ago. Public opinion would very rapidly have influenced the authorities upon the subject of the by-laws.

The vital point in construction, or perhaps more properly termed "finish" in the house erected at Newton, was the material used for the exterior covering of the timber-frame structure. The wooden house, which was not only wooden, but looks wooden, would not be taken to kindly by the British people. Whereas the house which was timber-framed, and was encased upon the exterior with a thoroughly satisfactory, impervious, and fire-resisting material would meet the wishes and supply the needs of the people, would be accepted gratefully and without question. Sir Charles Ruthen then gave the following details of construction:

The foundations in every case have been prepared in brickwork so as to bring the sole-pieces of the wooden frame-work well above the ground level, and a bitumen damp-proof course has been laid upon the brick foundations. The entire site has been covered in each case with a layer of

cement concrete. The sole-pieces are then laid, and upon these the skeleton frame work is erected. The main structure consists of 4-in. by 2-in. pieces erected to 16-in. centres, and these are properly braced in the manner shown upon the details with 4-in. by 2-in. stuff. The floor joists and roof timbers are exactly as they would be in an ordinary brick house. The "feet" of all the uprights and the sole-pieces are coated with a satisfactory preservative material. The necessary timbers forming the door and window openings, and for the purpose of carrying the floor joists and roof timbers are, of course, included in the general skeleton structure as shown upon the drawings, and the final result is a rigid and powerful wooden skeleton. In my opinion, up to this point there is nothing original or strange. Skeleton structures of this type have been erected in this country and all the world over for ages. Boarding upon the outside and lathing and plastering upon the inside would provide simply a "wooden" house and no more. The description of the important process towards the completion of the dwelling house has to come, and in this I propose to explain the methods adopted by our professional brethren upon the other side of the Atlantic.

Upon the outside of the timber studding is applied a manufacture known as Bishopric Stucco Board, obtainable in large rolls 48 in. broad, and consisting of three distinct materials. The first material is a fibrous board, upon which the second material, a thick layer of asphaltic mastic has been applied, in which mastic the third material (hereafter described) is embedded under great pressure. The third material before referred to consists of wooden dove-tailed laths. These laths are $1\frac{3}{8}$ in. wide, and three-eighths of an inch in thickness, and are embedded in the asphalt mastic at five-eighths of an inch distance apart. This shield (as I propose to term the Bishopric Stucco Board) is then carefully unrolled vertically against the timber studding of the skeleton structure, breaking joint upon the centre of the upright studding; the fibrous board being next to the studding, and the dove-tailed lathing outside. This shield is then firmly nailed to the studding of the structure, one long wire nail being used to nail each lath at the points bearing upon the studding. Each dove-tailed lath (in its 48-in. length) would therefore be nailed to the studding with four wire nails. We have now completed what one may term the second process in the erection of the shell of the structure, and have up to this point obtained a very stiff and rigid structure, capable of withstanding any wind pressure. In addition, if the shield is properly fixed, we have a perfectly damp-proof, vermin-proof, and warm structure. In fact, the inventor claims that the thick layer of asphalt mastic applied to the face of the fibrous board is also fireproof. This may or may not be so, but as the entire shell is not completed, I do not propose to debate this point.

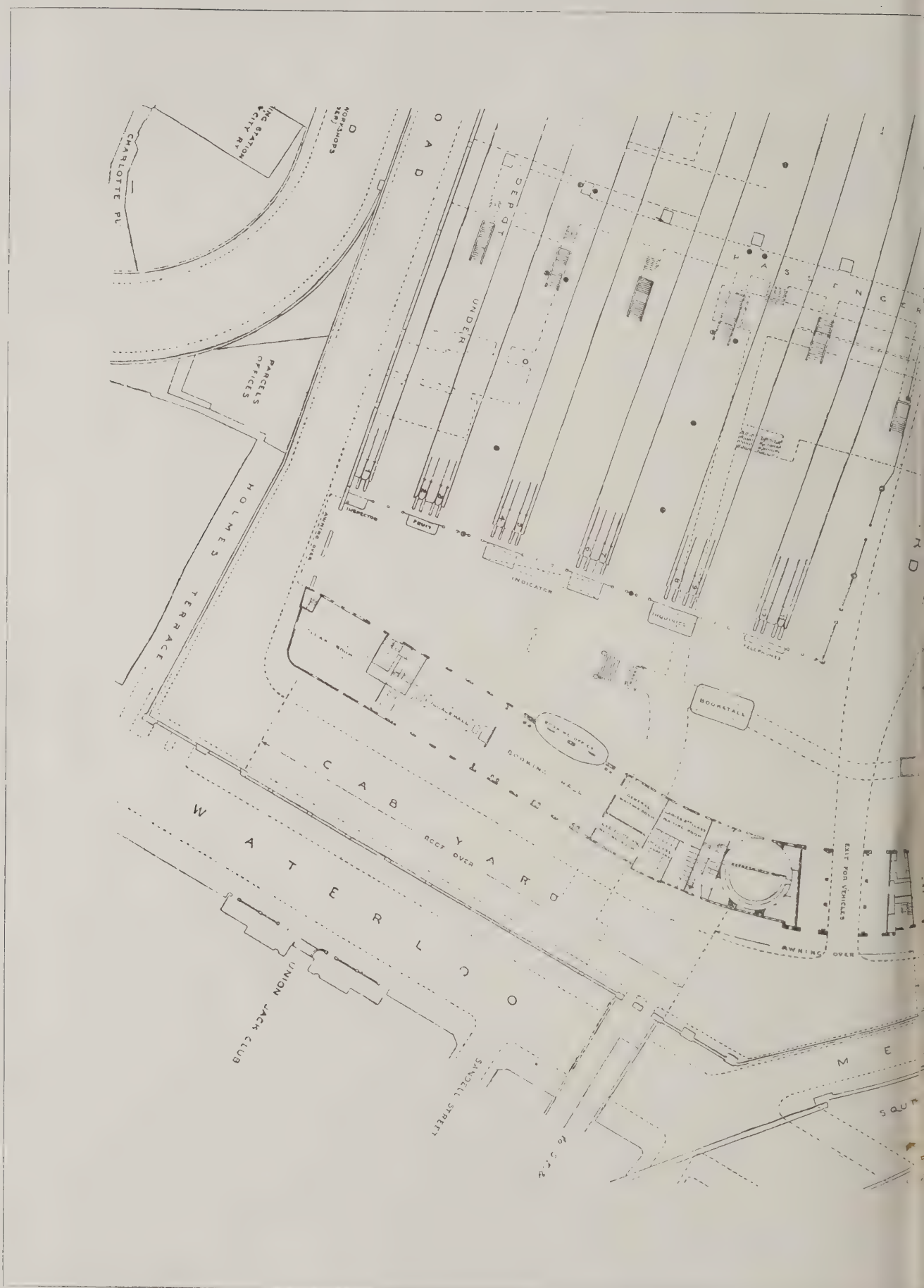
What one may term the third process in the erection of the shell has now to come, and in my opinion this last process is the most important from the point of view of the final production of a good, healthy, and artistic home. In many parts of the American Continent the final process consists of the nailing of weather boards upon

the outside of the shield as above, but in this mode of finishing the external wooden appearance, the continual expense of maintenance, for these reasons, in my opinion, this of finish is not satisfactory for this. In the house erected at Newton, in case of the houses erected in cement plaster has been applied to the external finish, and the finish is identical with that of an ordinary brick house with cement stucco on the external faces. The cement must be of good quality, and must be applied in two distinct coats, the first in between the dove-tailed laths and the second coat being of single mixture, and finished in the stucco manner. The total thickness of cement plaster upon the face of the shield would be about one-half an inch.

A few notes upon the use of the shield and upon the preparation and application of the stucco may be of interest to members in case it may fall to them to adopt this or a similar form of construction. It is necessary that the shield (Bishopric Stucco Board), which is available in large rolls, should be kept dry, and the material should be put under cover promptly upon arrival at the site of the works. When applied to the studding of the building, it should be nailed upon the studding (in the already fully described) as rapidly as possible. When once thoroughly nailed to the frame-work skeleton, it is not to be way injured by wet weather. The shield should be fine during the fixing of the shield material, and should be sprinkled with water before cement stucco is applied. The shield should be fixed as already described with the lathing horizontally. When cutting across the lath strips a sharp knife should be used, the sheets of the shield material being laid upon a bench for the purpose of cutting. Clean cuts should always be obtained, so that tight joints may be obtained when the shield is fixed upon the studding. For the cutting, a coarse rip-saw should be used between the lath strips, cutting the shield out from the lath side of the structure. If the shield is nailed, as already described to the studding, there will be no risk of the laths bucking or warping. Nails of sufficient length should be used, certainly not less than 2 in. The joints of the shield should be fixed at least every four feet, thereby giving continuous joints and adding strength and rigidity to the structure.

Cement Stucco.

For the cement stucco only best Portland cement should be used. In America stucco work (which I may say is the very finest class of work I have seen) hydrated lime of approved quality is mixed with the cement. All materials should be free from loam, salt, sugar, or other deleterious matter, and should be washed. I feel sure that nearly sufficient attention is paid to mortars and plasters. If first-class cement is used, and the aggregates are sharp and the proportions are correct, there is really no reason why first-class work should not be obtained. The mixture as used in America is as follows:



RECONSTRUCTION OF WATER
A. W. SZLUMPER, M. INST. C.E., CHIEF



DON: GENERAL PLAN.
COTT, ARCHITECTURAL ASSISTANT.

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UNIVERSITY OF CHICAGO



10 days after commencement,



15½ days after commencement.

SIR CHARLES RUTHEN'S EXPERIMENTAL COTTAGES AT NEWTON, MUMBLES, NEAR SWANSEA. TYPE A.

of hydrated lime is mixed dry in parts of cement, both being equally incorporated until of perfectly uniform colour; then one part of mixture to two and a half parts of water, with a sufficient quantity of water to give a good stiff mortar. Apply the coat to the shield, under pressure and the filling of the dove-tailed keys

upon the external face, trowelling as little as possible. Cross-scratch this coat deeply and thoroughly. This first coat should be five-eighths of an inch in thickness, and should be kept wet from the second day for seven days before the application of the second coat. For the second coat use the same mixture as before and apply in the same manner, omitting the

scratching. Stipple or float this coat at the time of application. For extra good work a third coat is applied not less than one-quarter of an inch in thickness, this coat being carried on continuously in one direction without allowing the mortar to dry out at the edge.

Surface Finishes.

There are numerous forms of surface finishes, viz.:

Smooth Trowelled.—Finishing coat to be smoothed with a clean metal trowel, with as little rubbing as possible.

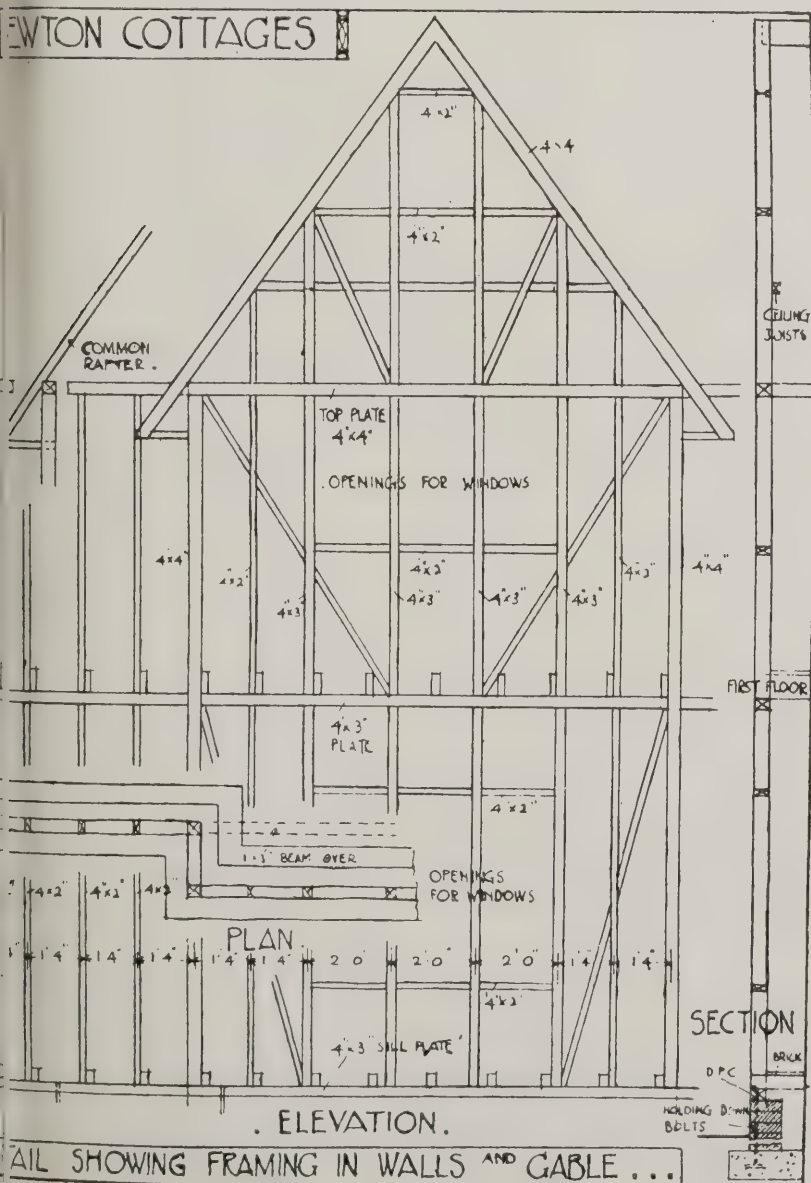
Stippled.—Finishing coat shall be smoothed with a clean metal trowel with as little rubbing as possible, then shall be lightly patted with a brush of broom straw to give an even stippled face.

Floated.—Finishing coat, after being brought to a smooth and even surface, shall be rubbed in a circular motion with a wooden float. This floating must be done when the mortar is partially set, and a little sand should be used to slightly roughen the surface.

Rough Coat.—After the finishing coat has been brought to an even surface, and before attaining its final set, it shall be uniformly coated with a mixture of one part white cement to two parts of white sand thrown forcibly against the wall in such a manner as will produce a rough surface of uniform texture.

Pebble Dash.—After the finishing coat has been brought to an even surface, and before attaining its initial set, clean pebbles or crushed stone shall be forcibly thrown against the mortar and embedded therein. Pebbles should vary in size from ¼ in. to ½ in., should be well wetted before being cast against the wall, and should be uniformly distributed over the surface. They should be pressed into the surface with a clean wooden trowel, but the surface should not otherwise be disturbed.

Sir Charles is very strongly of the opinion that the housing problem cannot be solved by the adoption of British house-building methods of pre-war days, and that some other method must be adopted to cope with the existing emergency. The site selected for the erection of the houses at Newton was so selected because of its exposed character. These specimen houses were erected some two or three hundred feet above the level of the waters of the Bristol Channel, and were fully exposed to the prevailing westerly gales.

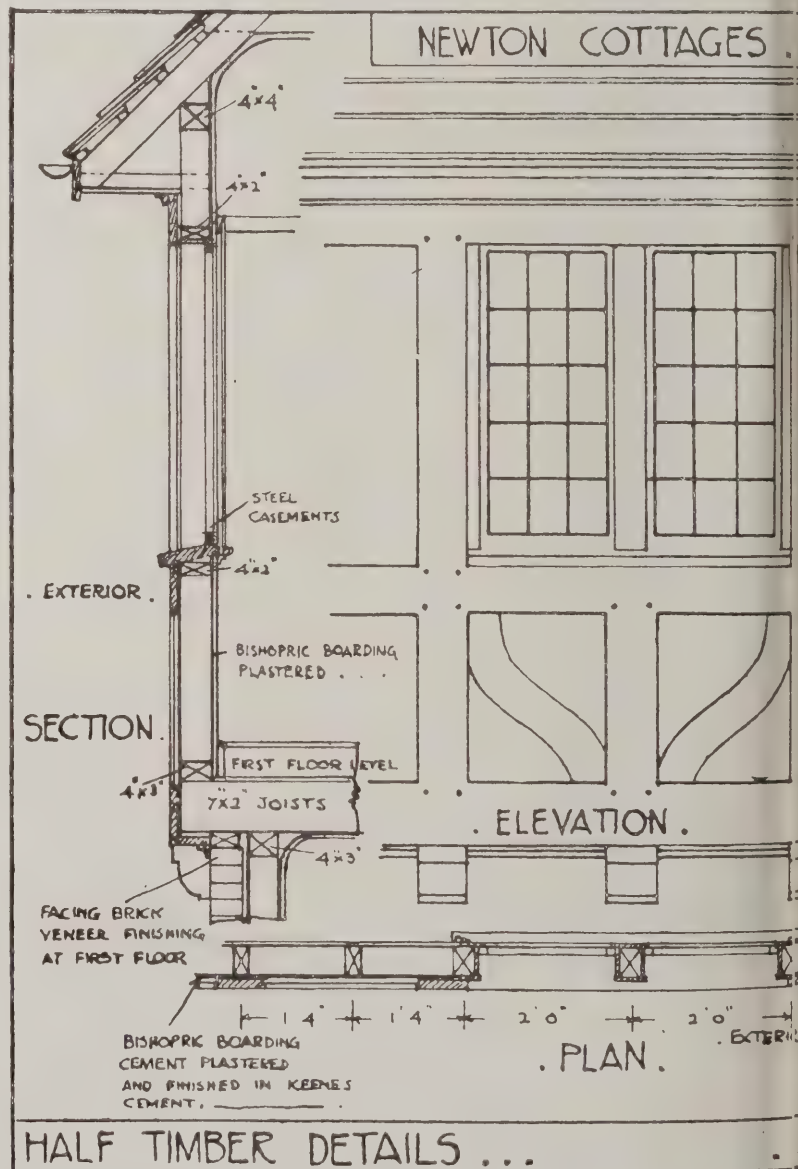
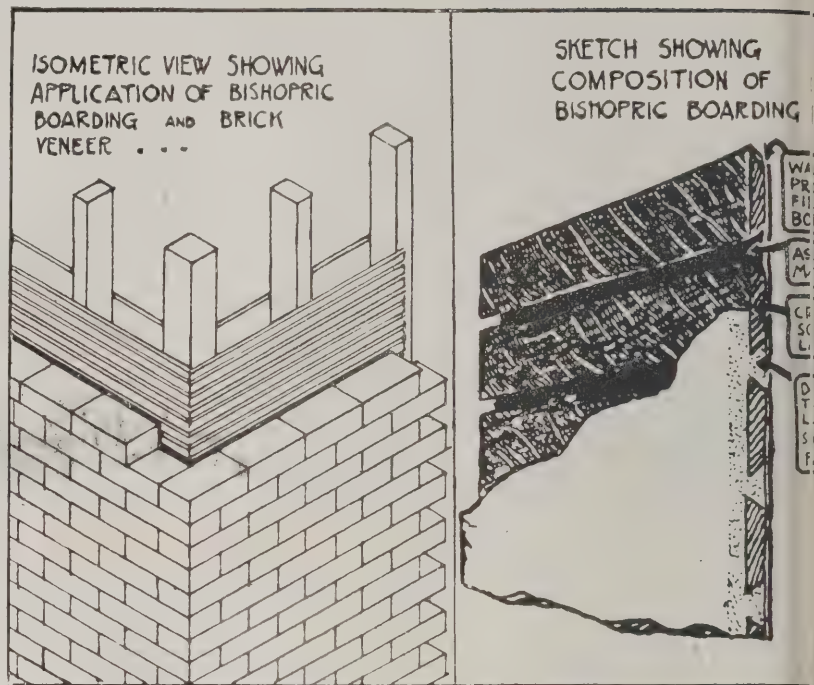


Object of the Experiment.

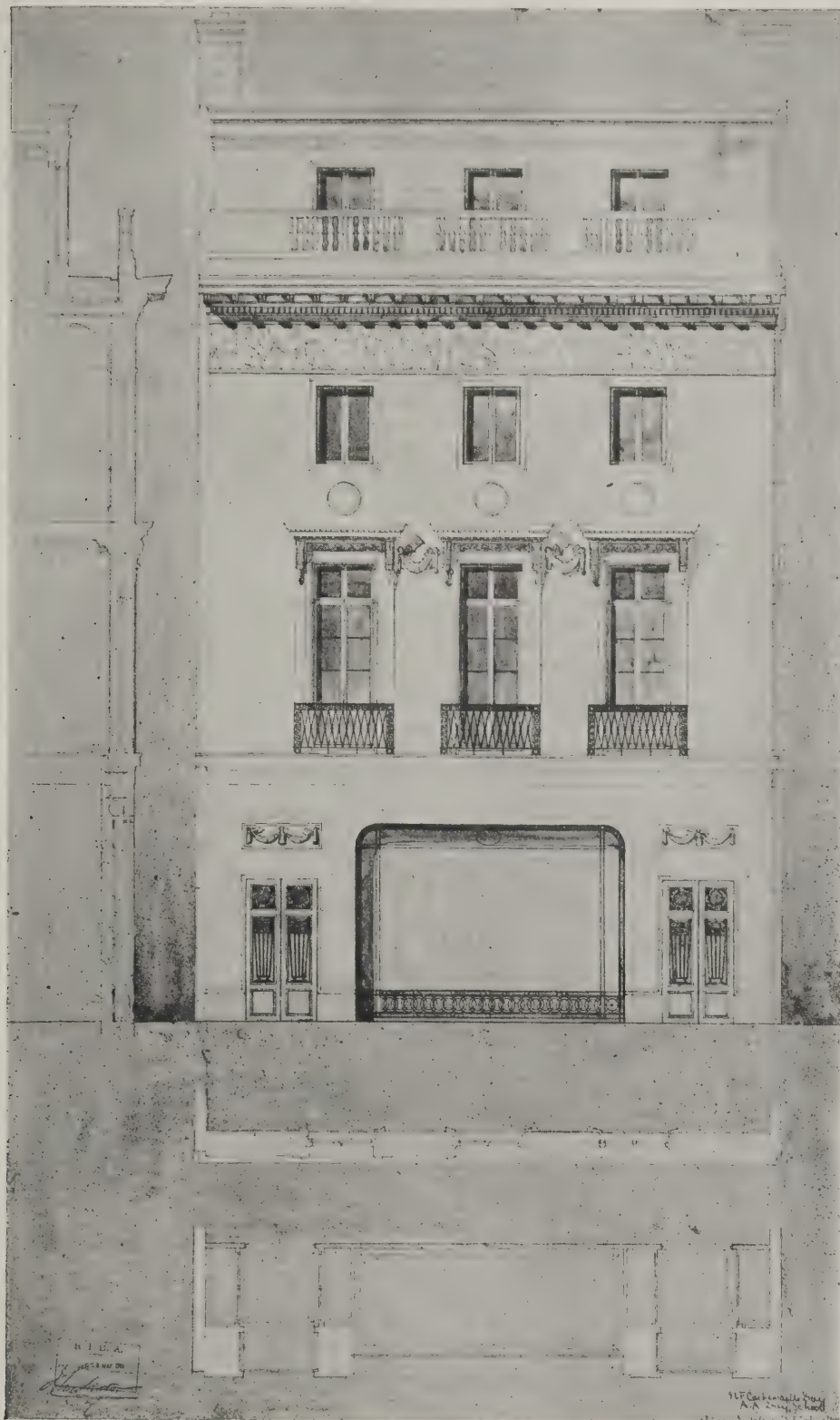
He considered that many newspaper paragraphs upon the subject of cheap wooden houses, peculiar to Canada, had been very misleading, particularly upon the subject of cost. Quite a number of correspondents had confused his houses with some illustrated in the Press, and a published statement that such could be erected for £300. Proper houses containing such accommodation could not be erected in this country to-day for anything like that figure. The houses at Newton had not been erected with the intention of showing what can be erected for the lowest possible price. His intention was to show that artistic, strong, lasting, weatherproof houses could be erected in a matter of a few weeks, and that after completion they could be tenanted immediately. Also, that although erected in a very short time they were, notwithstanding, good houses, finished so far as the exterior and interior were concerned, in the best possible manner and with the best possible materials. The roofs of Type A house had been covered with best rustic Precelly slates, specially selected, and well laid. The kitchen had been tiled with white-glazed tiles to a height of about 7 ft., the plumbing, sanitary, and other fittings, joinery and door and window furniture are of best quality, and all the windows were steel casements glazed with leaded lights. Types B and C were erected in exactly the same manner, excepting that the roofs of Type B were covered with Brosely tiles, and those of Type C with Welsh Green slates.

The Question of Cost.

In considering the question of cost, and applying the consideration to the actual cost of the shell of the structure, he had been able to obtain figures which convinced him that the actual cost per superficial yard of the shell—that is to say, the timber framing or studding, the shield fixed upon the outside and plastered two coats of cement plaster, with the inside lathed and plastered in the usual way, or covered with asbestos sheeting or fibrous wall board, was less to the extent of seven shillings than the same shell would be if erected in 11-in. hollow brickwork. The actual cost of the Type A house at Newton had been £125 less than the same house would have cost in 11-in. hollow brickwork. There were also a number of minor advantages from the point of view of cost, small points, perhaps, but all of consequence in these difficult days of housing shortage and building costs. The area of the site to be covered was smaller than would be the case with a brick house. The foundations were less costly, the roof timbers and slating less in quantity. In conclusion, he stated definitely that in the present national emergency he placed speed in erection first of all, and, incidentally, speed with which houses were tenanted after completion. Next in order of importance came weather-proof qualities and stability of structure; all other essentials follow in order of importance. The life of structures properly erected similar to the specimen houses at Newton would be quite as long as most of our pre-war houses, and the cost of erection was less. He recorded his thanks to his partner, Mr. C. W. Mercer, M.S.A., for his assistance in the preparation of the details and other drawings, and to Mr. W. K. Jones for his great confidence, and for finding the necessary money for the erection of these experimental houses.



DETAILS OF CONSTRUCTION OF EXPERIMENTAL COTTAGES AT
NEWTON, MUMBLES, NEAR SWANSEA.



DESIGN FOR A MODERN SHOP FRONT.

(Architectural Association Schools.)

RELAXATION OF BUILDING

BY-LAWS.

Ministry of Health have issued a Housing Memorandum, No. 12, in regard to regulations as to the relaxation of building by-laws under Section 25 of the Housing, Town Planning, etc., Act, 1919. The text of the Memorandum is as follows:

The object of Section 25 of the Housing, Town Planning, etc., Act, 1919, is to enable local authorities a power, exercising during the period of three years from January 1, 1919, to allow the erection and human habitation of buildings of which may not be permissible under existing by-laws, but which comply with the provisions made by the Minister of Health.

The Regulations have been framed in general terms so as to leave a wide discretion to local authorities in regard to the materials and methods of construction which may be permitted. The walls may be of any material and construction which will ensure sufficient stability and reasonable protection against the weather. The Regulations also extend to foundations and roofs which shall be placed at the minimum necessary height to safeguard life and health. It will be left to local authorities to permit the use of buildings as dwellings of army huts and other similar structures. They can also be used for various more or less permanent buildings of building which do not comply with the present by-laws. A description of the types of construction which may be covered is appended by way of illustration. A committee has been appointed by the Minister of Health to consider new methods of construction, and the results of any new methods approved will from time to time be published.

Section 25 provides that the local authority may attach to their consent any conditions which they deem proper with reference to the situation, sanitary arrangements and protection against fire of the buildings in question. In the case of army huts the construction and position of stoves, gas cookers, and flues require special consideration, and suggestions on this subject are invited.

The section further provides that the consent given by the local authority shall be for a limited period, which may from time to time be extended. The Regulations apply to types of structure which would be permitted by the Regulations vary considerably in durability. Each particular case will need to be considered on its merits. The object of the Regulations is to encourage new forms of building construction and the immediate provision of housing accommodation. It will be made plain that the builder should at the time of receiving an assurance that the building when erected will be allowed to be used for a period which will justify his outlay, and local authorities should take a liberal view in determining for what period to consent to the building for habitation.

Any person who feels aggrieved by the refusal of the local authority to give their consent under the section, or the conditions on which consent is given, or as to the period allowed for the building for human habitation, may appeal to the Minister of Health. In considering any such appeal the Minister may require the appellant to deposit a sum, which is not to exceed £100.

Types of Construction for External Walls.

The following are examples of types of construction of external walls which might be permitted under the Regulations:

(1) A hollow wall constructed of brickwork, cement concrete slabs or other suitable incombustible material, each part of the wall being not less than 3 in. thick and the intervening cavity being not less than 2 in. All brickwork or other material forming the wall should be properly and solidly put together with good lime mortar or cement mortar, and the two parts of the wall properly tied together.

(2) Timber framing covered externally with: (a) Weather boarding (coated, if of soft wood, with an efficient preservative); or (b) asbestos sheets not less than $\frac{1}{4}$ in. thick; or (c) metal reinforcement coated with good plaster of cement and sand, so that the reinforcement is completely embedded and has not less than $\frac{3}{8}$ in. of thickness of plaster on each face; or (d) plates or sheets of metal, and lined internally with asbestos sheets, plaster, plaster slabs, or other suitable material. Match-boarding is not desirable, but should not ordinarily be objected to in the case of a building erected before the making of the Regulations and not subsequently re-erected.

(3) Steel framing protected from rust, covered externally and lined internally, respectively, in any of the ways described above.

(4) Good brickwork of solid or hollow bricks, terra-cotta or sawn stone not less than $4\frac{1}{2}$ in. thick, or hollow tiles or cement concrete slabs not less than 3 in. thick, or other suitable incombustible material of sufficient thickness and strength, the wall being sufficiently strengthened with solid piers not less than 14 in. by 9 in. properly distributed throughout its length. The wall should be rendered externally in cement and sand or otherwise rendered impervious to moisture. The internal face of the wall should be battened and covered with asbestos sheets, plaster, plaster slabs or other suitable material. The thicknesses above specified would be appropriate in the case of a one-storey building.

(5) Good cement concrete built *in situ* or solid or hollow blocks of cement concrete or other suitable incombustible material, the wall being not less than 6 in. thick, properly and solidly put together with good lime mortar or cement mortar and rendered externally in cement and sand or otherwise rendered impervious to moisture.

Suggestions for Protection Against Fire.

1. Hearths.—Wherever a stove or furnace in which coal, wood, or similar fuel is intended to be consumed is supported from a wooden floor, it should rest on a hearth of solid, hard, and suitable incombustible material not less than 3 in. thick, projecting in front of the stove or furnace not less than 16 in., and on all other sides to a sufficient distance not being less than 9 in.

2. Stoves.—Where any stove or furnace in which coal, wood, or similar fuel is intended to be consumed stands within 3 ft. of any wall or partition, the wall or partition behind the stove or furnace should, for a height of not less than 4 ft. and width of not less than 3 ft., be formed of incombustible material not less than 3 in. thick.

3. Flue Pipes.—No combustible material in any wall, partition, floor, ceiling or roof should be within 9 in. of any metal flue conveying smoke from any stove or furnace in which coal, wood, or similar fuel is intended to be consumed.

PRIVATE ENTERPRISE AND THE GOVERNMENT HOUSING SCHEME.

Proposals for the improvement of the Government housing policy have been formulated by Mr. A. G. Westacott, F.L.A.A., secretary of the National Federation of Builders' Merchants' Association. The object of the suggested scheme is to secure the rapid erection of the houses, to avoid any large contribution from State or municipal funds, and to enlist the active assistance of private enterprise and capital. Briefly, the views and the suggested scheme of Mr. Westacott is as follows:

Repayment of Excess Cost.

Private capital would provide the whole of the money for building the houses, if assured that the excess cost will afterwards be made good, and this refund could be deferred if in the meantime it is allowed to bear interest. If, therefore, the State guarantees the repayment at a fixed future date, and in the meantime pays interest, that would be sufficient to induce private capital to come to the rescue. A fair solution would be for two-thirds of the excess cost to be ultimately borne by the State, and one-third by the tenant through his increased rent, and that is the basis of the suggested alternative scheme. It is admitted that if erected for sale the extra price obtained above pre-war figures would more than make up this one-third balance, or if erected for investment, the difference would be more than recouped by the increased rent obtained. In the case of a six-roomed working-class London house, costing (say) £375 freehold before the war, letting at (say) 14s. to 15s. per week inclusive, and showing a net return upon the owner's investment of, say, 6 per cent., at the present time the minimum cost of a similar house and land might be put at £750 (i.e., an advance of about 125 per cent. in the cost of the fabric, the cost of the land not having greatly appreciated). The excess cost would be made up to the investor by Housing Bonds for two-thirds of the amount, and the remainder by the extra price he would obtain by reason of the demand and the increased rent chargeable.

Standard Schedules of Costs.

The proposal is that the whole of the money for building shall be provided by private capital, but two-thirds of the excess cost shall be treated as a loan to the State, against which the State shall issue Housing Bonds to the financing parties, payable at par at the end of twenty years, and meantime bearing interest at 5 per cent. per annum. All the State would be asked to provide, therefore, would be the small annual sum for interest and sinking fund for redemption of capital. These Housing Bonds would bear the joint security of State and local council, and would at any time be realisable practically at par value. Certain standard schedules of costs would be drawn up by the National Housing Authority, based on certain broad stipulations of maximum cost, minimum accommodation and site area, materials, design, and internal fittings, etc. These costs would be calculated on the prevailing prices of materials and labour, plus a reasonable profit for the builder, and these schedules would be adopted as the base-line costs for certain recognised types of houses, being the figures on which the amount of the Housing Bonds would be fixed. By adopting average cost standards, it would be possible to avoid issuing bonds for odd amounts, and innumerable calculations,

whilst still keeping sufficiently close to the true cost. Actual local administration would be in the hands of the local municipality or council, who would be charged with the approval of plans lodged for the erection of houses in the district, and the Housing Bonds would be granted upon the authority of their final certificate that the buildings had been satisfactorily erected and all requirements duly complied with. The bonds would either date from the issue of the final certificate, or from the next subsequent quarter-day.

Method of Procedure.

The actual building of the houses would be carried out by established builders and contractors for private capital, either on contract or as might otherwise be arranged. There would be no restrictions on the sale of the houses when erected, and the individuals or syndicates who provided the money for building them would be free to sell the buildings at the current market value. The demand for many years is likely to be such that there is sure to be a satisfactory return upon outlay. An illustration will make the working quite clear. An individual decides to utilise his capital by putting up a certain number of working-class houses for sale. On application to the local council, he receives the schedules setting out types and maximum cost, etc. He thus knows the figure upon which the Housing Bonds will be calculated, and the price at which he must get the house erected to obtain a satisfactory return upon his money. He obtains tenders from various builders, selects the most satisfactory, and lodges the plans received from the builder with the council surveyor for approval. Inspections of the building are made from time to time by the council surveyor, and advances made to the builder by the financier on the usual plan, until the houses are completed. A last inspection would be made by the council surveyor, and a final certificate issued, whereupon the financier would be entitled to the Housing Bond, and would be at liberty to dispose of the houses without further restriction. Sale-guards would be imposed to prevent abuses or evasions by the unscrupulous, and as far as possible everything would run exactly as in pre-war days. Although certain broad regulations would have to be complied with, the scheme affords ample scope to private enterprise to adopt the most efficacious and economical methods of erection.

Advantages Gained by the Scheme.

Mr. Westcott claims the following advantage for his scheme: "Private capital would be provided with an opening for the employment of money at a remunerative return, and would have scope for participating in the good trade which would ensue. Municipalities and local councils would benefit both by the saving of a considerable outlay and the avoidance of a number of onerous responsibilities and obligations, and by the increase in householders' (and consequently ratepayers) and general improvement in trade. There would be no call upon the national exchequer for any loans, and the first call for interest on the Housing Bonds would not take place until the lapse of more than a year. There would also be no necessity for any 'penny housing rate.' The Government Housing Department could be kept within very moderate dimensions, and a large saving effected in this direction alone. The adoption of the scheme would also have the effect of getting the houses actually put up as fast as labour and material were available. Assuming

the number of houses to be built to overtake the actual shortage at 500,000, and the average present-day cost of erection and land at £750 each, we have a total outlay of 375 million pounds, and this would all be provided by private enterprise, and not by the State. The Housing Bonds would represent one-third of this total, or 125 million pounds, and the annual charge for 5 per cent. interest and sinking fund for redemption of principal would be less than ten million pounds (if the sinking fund instalments are reinvested the annual charge could be still further reduced)."

THE SHROPSHIRE COUNTY WAR MEMORIAL.

The County War Memorial which has been adopted for Shropshire has been designed by Mr. George Hubbard, F.S.A., F.R.I.B.A. As will be seen from the illustration, the monument takes the form of a classic temple, constructed in Portland stone, and six pairs of Doric columns standing on a hexagonal base support the

dome, which is finally surmounted by a cross. The whole encloses the figure of a soldier in the act of hurling a grenade, the striking attitude of a bomber being typical of the energy displayed by those for whose sacrifice the shrine is being erected. The architect was fortunate in being able to select a site for the memorial, and has chosen a position on the river bank in the park at Shrewsbury. The formal, yet delicately refined, silhouette of the building in sharp relief against the sky as it approaches it along a fine avenue of trees. Perhaps one of the happiest features of this memorial is the curve of the dome, thrust of which is resisted by the circle of columns, thus giving a reason for their existence. The whole design, so novel in conception, in no way departs from true classic proportion and detail. Shropshire is to be congratulated for the wisdom it has shown in entrusting the design of its memorial to an accomplished architect. The practice is one to be encouraged, and it is to be hoped that other counties will follow the example.



MODEL OF THE SHROPSHIRE WAR MEMORIAL.

GEORGE HUBBARD, F.S.A., F.R.I.B.A., ARCHITECT.

COMPULSORY PURCHASE OF LAND FOR HOUSING SCHEMES.

The Scottish Board of Health have made what is called a Compulsory Order for the acquisition of land by a local authority for the housing of the working classes. The Order revokes the powers of the Local Government Board for Scotland, dated October 20, 1911, and has been made principally to shorten the time to elapse from the date of making the Order till its confirmation by the

Ministers of Section 11 of the Housing, Town Planning, etc. (Scotland), Act, 1919, and to give a local authority to acquire land for the purposes of Part III. of the Working Classes Act, 1890, are to be deemed to include the power to acquire houses or buildings on land proposed to be acquired, and any interest in any houses which are made suitable as houses for the working classes, together with any lands attached to such houses. The Order is made applicable to the compulsory purchase of such houses or buildings and also, in terms of Section 60 of the Housing, Town Planning, etc., Act, 1919, land required for a town-planning scheme.

The compensation payable to the owner of the ground will be determined according to the provisions of the Land (Assessment of Compensation) Act, 1919, instead of in terms of the Schedule to the Housing, Town Planning, etc., Act, 1909. The Board of Health has the local authority to the terms of the Working Classes Act, 1890, which provides that where an Order authorising a local authority to purchase land compulsorily for the purposes of Part III. of the Working Classes Act, 1890, has been confirmed, then, at any time after the Order has been served, the local authority may, after giving not less than seven days' notice to the owner and payment of the land, enter on and take possession of the land. This provision does not, however, apply in cases where land is acquired compulsorily for the purpose of a town-planning scheme.

The Order gives the several local authorities in Scotland power for the purposes of Part III. of the Working Classes Act, 1890, and of the Town Planning (Scotland) Act, 1919, the Order directs that on submitting the Order to the Board of Health for confirmation, the local authority shall cause advertisements for two successive issues in the local newspapers. Each of the advertisements shall contain in addition a copy of the Compulsory Order and a statement that any objection to the Order must be presented within fourteen days from the publication of the advertisement; and a statement of the date, times, and place or places during which the deposited plan may be inspected by persons interested in the land to which the Order relates.

The plan is to be deposited by the local authority not later than the seventh day after the making of the Compulsory Order, and is to be convenient for inspection, not later than fourteen days from the date of the publication of the first advertisement. The local authority shall not later than the seventh day after the making of the Compulsory Order, and after the publication of the Order, cause notice to be given to every owner, lessee, and occupier of the land to which the Order relates. The local authority will also furnish a copy of the Compulsory Order, free of

charge, to any person interested in the land to which the Compulsory Order relates upon his applying for the same.

The period within which an objection may be presented by a person interested in the land to which the Order relates shall be fourteen days from and after the date of the publication of the first advertisement of the Compulsory Order.

A circular has also been issued by the Scottish Board of Health drawing the attention of local authorities to some of the more important provisions of the Housing, Town Planning, etc. (Scotland), Act, 1919. The Act places very definite obligations on local authorities in several respects, and at the same time arms the Board with ample power to see that these obligations are fulfilled.

DR. ADDISON AND HOUSING EXPERIMENTS.

Dr. Addison addressed a meeting of Press representatives on Wednesday afternoon last at the Ministry of Health, in Whitehall, and particularly dealt with the subject of wooden houses. At the outset of his remarks the Minister emphasised the fact that though the Government did not care what the houses were made of, so long as they were decent houses, they were not to be guided by fairy tales. They must be houses in which the British public would be content to live. Some time ago he called together a number of experts and they investigated various proposals for building houses, considering all the various forms of construction, including concrete, reinforced concrete, concrete and steel, asbestos sheeting, etc. Experimental houses in these various forms were under construction in several towns. Wooden houses had been receiving a great deal of attention lately, and they had invited quotations from the best builders in the country. They took the simplest form of house, and cut down requirements so far as they could to a minimum, and they did not ask for the price of one house but for large numbers. He had before him the actual tenders, and according to this scheme the price came out at £689; and drainage, lighting, water supply, etc., brought it up to £721 10s. They had also the army huts, which were not merely four walls and a roof. They did not run down wooden houses, and they were not trying to defend themselves. They would accept anything so long as it was a house, but the fact was that a wooden house could not be erected for £250. They wished those who said they could would come along and do it. Unfortunately, a house at that price was only four walls and a roof; and four walls and a roof was not a house. They came out at about a third of the total cost. All the information they had got showed that the difference of cost between wooden and brick houses was relatively a trifle. They were taking over army huts all over the country, and the army hut, simple as it was, had partitions and fittings put in, but even the price of a complete hut came out at £400, and they were getting these huts at 33 1/3rd per cent. discount. They were confronted with the appalling costs, and on that point he would say that the quotation of £1,200 per house gave a wrong impression. Tenders accepted up to the present all worked out at £690. Referring to the building of cinemas, Dr. Addison pointed out the Ministry of Health had no power to prevent the building of cinemas instead of houses. Regarding the Ministry's refusal to pass certain schemes, Dr. Addi-

son said that the average price first asked for land was £245 per acre; the average finally accepted was £186, so the result of the Ministry's criticisms was that they had saved the country £329,897. The work of converting empty houses into flats was going on very satisfactorily all over London, but they had a long way to go yet.

ENQUIRIES ANSWERED.

Sand-faced Rough-cast.

G. S. M. writes: "Please inform me how sand-faced rough-cast may best be prepared and applied."

—Fine rough-cast is executed in a precisely similar manner to the coarse varieties, the pebble-dash being of a finer gauge. Texture is sometimes given to the rendering in Portland cement and sand (1 to 3) by dabbing the floated surface with a wood float covered with coarse sacking or old carpet, or by scratching it with a drag. This method gives a better effect when distempered than any more even method.

Weather-boarded Cottage Construction.

H. F. writes: "Kindly refer me to a publication in which the details of weather-boarded wood-studded cottage construction are explained."

—Full particulars and details of frame houses are given in "Building Construction and Superintendence," Part II., by F. E. Kidder. This book, published by W. T. Comstock, of New York, is obtainable through our own publishing office, 27-29, Tothill Street, Westminster. See also recent articles in this journal.

Sir Charles Ruthen's method of timber frame construction is fully described and illustrated in this issue.

Government Housing Publications.

P. E. S. writes: "Where can I obtain a list, or copies, of the various publications of the Local Government Board and Ministry of Health dealing with housing schemes?"

—Through any bookseller or from H.M. Stationery Office at any of the following addresses: Imperial House, Kingsway, London, W.C.2, and 28, Abingdon Street, London, S.W.1; 37, Peter Street, Manchester; 1, St. Andrew's Crescent, Cardiff; 23, Forth Street, Edinburgh; or from E. Ponsonby, Ltd., 116, Grafton Street, Dublin.

Action of Frost on Mortar.

ARCHITECT writes: "What is the action of frost on lime mortar? Is it mechanical or chemical, or a combination of both? I find that lime mortar, after it has been exposed to the action of frost, becomes inert and resembles a mixture of sand and ashes. This would not be the case if the action of frost were only mechanical."

—The true inwardness of the setting of mortar has never yet been satisfactorily explained. It is often assumed that intermolecular penetration takes place between the particles of lime and the sand or other aggregate to which it adheres, forming a silicate-of-lime cement between them; but this, so far as we are aware, has not been proved. In this state of knowledge it is difficult to define the precise action of frost on lime mortar. What is certain is that frost swelling the moisture in the mortar arrests the process of crystallisation and causes internal disruption of the mass, and that the setting process thus arrested is not resumed—an explanation which appears to depend on mechanical action.

CORRESPONDENCE.

The A.I.A. and the R.I.B.A.

SIRS,—When the Peace Treaty was signed the Royal Institute of British Architects sent messages of congratulation to its Allied societies in the Dominions and to the kindred societies in the Allied countries. The President of the R.I.B.A. has just received from the President of the American Institute of Architects the enclosed reply, which is framed in such cordial terms that it may be of interest to your readers.

IAN MACALISTER,
Secretary.

The Octagon House,
Washington, D.C.

DEAR MR. SIMPSON,—The American Institute of Architects, through the Executive Committee of its Board of Directors, acknowledges with deepest appreciation the message of greeting and congratulation contained in your cablegram, and trusts that a closer and a deeper sympathy may in future bind together the architects of our several countries—one of the profound benisons that shall justify the war and its cost, and to which we, in our full acceptance of the final justice of all things, confidently look forward.

In the delay of this response is voiced the desire to have it shared in by the Executive Committee of the Board of Directors, whose recent action this note records.

Believe me, my dear confrère,

Most sincerely yours,

THOMAS ROGERS KIMBALL.

WEEKLY HOUSING REPORT.

The return of housing progress issued weekly by the Ministry of Health states:

The number of new site schemes submitted to the Ministry during the week ended October 11 was 130, bringing the total number of schemes submitted to 5,278, comprising about 46,500 acres. The total number of schemes approved is 1,837, comprising about 21,400 acres. The total number of schemes submitted in the house-plan stage is now 703, representing 39,355 houses; of these 456 schemes have been approved, representing 26,103 houses. Thirty-one local authorities had made application by the end of the week for war-service huts and hostels with the view of converting them into temporary dwellings for the working classes.

Details of the schemes of local authorities dealt with during the week are as follows:

Schemes Submitted.—The number submitted by forty-eight local authorities was 129, bringing the total number of schemes to 5,211, covering approximately 43,300 acres.

Schemes Approved.—Fifty-six schemes were approved, comprising an area of 440 acres. This brings the total number of approved schemes of local authorities to 1,818, covering approximately 20,825 acres.

Lay-outs.

Schemes Submitted.—Sixty-eight schemes were submitted by twenty-eight local authorities, bringing the total number of schemes submitted to 1,053.

Schemes Approved.—Sixteen schemes promoted by ten local authorities, were approved, bringing the total number of schemes approved to 565.

House Plans.

Schemes Submitted.—Fifty full schemes and one part scheme, representing 1,341 houses, were submitted by twenty-three

local authorities. This brings the total number of the schemes of local authorities to 674, representing 34,714 houses.

Schemes Approved.—Twenty-two full schemes and two part schemes, promoted by eighteen local authorities, were approved, bringing the total number of schemes approved to 437, representing 25,274 houses.

Conversion of Temporary Buildings.

Up to October 11 thirty-one local authorities had applied for permission to provide housing accommodation by the conversion of temporary buildings. Two hundred and thirty-one tenements are proposed to be provided, and 140 are either occupied or ready for occupation.

SUBSTITUTE BUILDING MATERIALS.

I.—“Beaver Board.”

In accordance with our announcement in a recent issue of our intention to publish from time to time critical reports of a qualified architect on the more recent substitutes for building materials, we give below his technical description of Beaver Board, one of the several substitutes for lath and plaster finishings to walls, ceilings, etc.

Beaver Board is almost wholly a Canadian product, and consists of spruce wood fibre pressed into large panels, slightly exceeding three-sixteenths of an inch in thickness. The panels or boards are made of two widths—viz., 3 ft. and 4 ft., and of even lengths of 6, 8, 9, 10, 12, 14, and 16 ft. In structure the material is laminated, there being in all four layers. The timber which experience has shown to be the most suitable for conversion into Beaver Board is spruce, of which only selected logs are used in the mills. The finished product weighs a little over half a pound per square foot. The spruce logs are, in the course of manufacture, shredded into fibres, and these are “meshed” by patent machinery into thin sheets or plies, four of which, cemented together, comprise the actual boards or panels. These are seasoned by a drying process, and afterwards both the front and back surfaces receive single and double coatings respectively, of patent sizing, so that when the front is painted each side is equally covered and protected. This process of sizing not only makes the board resistant to moisture, but serves as a valuable preparation for the application of paint or distemper to its surface. It will be seen, therefore, that by what is virtually a reconstruction of the wood, laminated panels are obtainable of very large size, which are entirely free from the normal defects of the natural article. Moreover, it may be accepted that, thickness for thickness, the manufactured panel has the advantage of greater strength, in addition to which it will neither crack nor chip. As regards its sound-resisting properties, its employment for telephone boxes and consultation rooms has been demonstrated by practical tests conducted by the Beaver Board Company to exceed those of plaster.

Beaver Board may be employed in a variety of ways, and in all positions in which architects have been accustomed to use lath and plaster, such as in finishing walls, partitions, and ceilings. In the case of brick walls it is necessary to fix battens about $1\frac{1}{2}$ in. in width to the brickwork at the required distances, in order to receive the boards. For wood partitions the boards are nailed direct to the studs, and when applied to ceilings, they are fixed to the joists. It is very necessary, in order to

obtain a satisfactory result, the boards should lie flat and even. To this result great care must be taken: the joists or studs are regular and give a true surface for their application; they are defective in this respect should be carefully furred up with strips of wood. Each board should be nailed all four of its edges as well as immediately through its surface. This requires care in setting out the battens, studs, or joists—as the case may be—to suit the widths of boards proposed to be used. If this cannot be done, the suitable width must be chosen, so as to avoid waste of material. When every precaution does not meet the site, false studs or joists must be introduced, which the boards can be securely nailed to. Similar provision must be made zonally for the top and bottom edges of the boards.

The preparation necessary for applying the Beaver Board to concrete walls and floors is exactly the same as to brickwork. In nailing the boards to their supports, allowance for expansion should be made by leaving an interval of about $\frac{1}{8}$ in. between the edges of each board and adjacent to it. This space must then be covered by a strip of wood, which may be plain, sunk, or moulded, of not less than $1\frac{1}{2}$ in. wide. This structural necessity affords great scope for the designer by employing strips of greater width than the minimum above-mentioned, placing his studs or battens in conformity with a prearranged scheme of decoration, may produce very satisfactory effects in panelling. When nailing through the boards to the intermediate studs or joists, the brads should be carefully punched in and stopped. A suitable putty can be made of white lead and putty-like consistency. The studs should be sized over when dry.

One of the most important purposes for which Beaver Board may be applied is in covering old plastered surfaces and, where these are cracked, the advantage of permanently hiding such disfigurements is obvious. The precaution, however, of ascertaining if the plastered surface is an even plane must be taken, and if found to be irregular, furring strips or battens will become necessary before nailing the boards to the joists or studs. The material may also be fixed to studs which have been boarded, provided the surface of the boarding is smooth and even. The method of fixing is similar to that employed in the case of joists and studs, except that the panels can be nailed direct to the boarded surface. Any ordinary paint or distemper may be used for decorative finish, but it is worth employing the best materials only.

Architects should find Beaver Board a very useful material, not only for the rapidity of construction is of vital importance, but in many situations in which consideration is less urgent. In the case of cost, a comparison based on the cost of a well-known quantity surveyor shows that lath and plaster worked out at the same price per square yard as Beaver Board. Over two thousand semi-detached bungalows for the Ministry of Munitions as well as buildings for the Admiralty, War Office, and the Office of Works have been finished internally with this material, which has also been much employed in the construction of private houses in various parts of the country. In Canada and the United States, as might be expected, view of its transatlantic origin, it has an even wider popularity.

DEVELOPMENT AND HOUSING.

Colchester.

Housing Commissioner has approved the scheme submitted by Colchester Town Council in which several hundred houses are to be erected.

Blyth and Cuckney.

Blyth and Cuckney Rural District Council have decided to erect sixty-six houses and to appoint Mr. F. Hopkinson, F.R.I.B.A., as architect.

New Zealand.

New Zealand's Government has approved the borrowing of £2,000,000 for the erection of workmen's houses. The scheme is authorised.

Lichfield.

Lichfield City Council has obtained approval to borrow £2,400 to purchase land for a housing scheme. Work is to be commenced on the erection of twenty-four houses.

Market Harborough.

Market Harborough Council have received tenders from five different firms for the erection of various types of houses. A total of twenty-one houses are to be erected at a cost of £42,239.

Penge.

Penge Urban District Council have received powers on its Town Planning Committee to enter into a scheme to purchase house property for conversion into flats.

Rhyl Developments.

Rhyl Council have decided to provide another portion of their sea-front development scheme by the erection of a theatre at the entrance to the town. The cost will be between £3,000 and £4,000.

Maidstone.

Ministry of Health has sanctioned Maidstone Corporation scheme for a new housing scheme for a first loan for municipal housing. An immediate start is to be made on 162 dwellings. The total cost will be £144,000.

Bangor (Ireland).

Bangor (Ireland) Urban District Council have decided that a scheme for the provision of houses at an estimated cost of £10,000 exclusive of loan and incidental expenses be submitted to the Local Government Board for approval.

Cookstown.

Cookstown (Ireland) Urban Council have decided the housing scheme prepared by the Housing Committee, providing for the erection of sixty-seven houses—ten with three bedrooms, and two with four bedrooms.

Scheme for Tottenham Housing.

Tottenham Urban District Council have decided to the President of the Royal Institute of British Architects to nominate a committee to carry out their housing scheme. The following appointments have been made subject to the approval of the Ministry of Health: Supervising architect, Mr. L. Rome Guthrie, M.C.; executive architects, Capt. J. H. Grove, F.R.I.B.A., and Messrs. J. H. Grove, F.R.I.B.A., and G. S. M.S.A.

Prestwich.

Prestwich (Lancs) Urban District Council has decided to expedite the town planning scheme, which provides for the erection of thirty-two houses. The cost of the erection of these houses, which will be of the working-class type, will average £1,000 each.

Conversion of Houses into Flats.

In connection with the proposed adaptation and conversion of existing premises for housing purposes the following return has been prepared by the Hackney Housing Committee: On August 1, 1919, the total number of houses and premises inspected and found unoccupied was 202. On September 9 the number let and occupied was ninety-four. The number undergoing redecoration and stated to be either let or sold was thirty-five. The number derelict and unavailable for occupation unless rebuilt was twenty-nine. The number of small lock-up shops and workshops without dwellings to be let when repaired or retained for soldiers until demobilised was eighteen. The number available for letting in tenements or for conversion into flats was twenty-six. The Housing Committee stated that they had detailed plans prepared in respect of twenty of the twenty-six premises as they exist at the present time, and these were submitted to the London Housing Board for consideration, with the intimation that any premises which the Board were prepared to approve for conversion should be dealt with by H.M. Office of Works as speedily as possible and, when ready for letting, handed over to the committee for that purpose. The Housing Board have agreed to this course being adopted.

THE WEEK'S NEWS.

New Club for Harlesden.

A public hall and young men's club is to be erected at Harlesden as a memorial to local men who fell in the war.

Architect's Change of Address.

Mr. Evelyn Hellicar, A.R.I.B.A., architect, has removed to No. 17, John Street, Bedford Row, London, W.C.

Chipping Sodbury War Memorial Hospital.

At a public meeting held at Chipping Sodbury it was decided to erect a war memorial hospital for Chipping Sodbury and district.

Nottingham War Memorial.

The joint war memorial for the City and County of Nottingham is to take the form of a large extension to the Nottingham General Hospital, which it is estimated will cost £100,000.

New County Architect of Essex.

Mr. John Stuart, West Riding, has been appointed county architect of Essex, at a salary of £1,000 per annum, in succession to Mr. G. Topham Forrest, who has been appointed superintending architect to the London County Council.

The Proposed Central Goods Station.

Details of Mr. A. W. Gattie's proposed clearing house for London goods were given by Mr. Percy Thomas, an engineer, at the enquiry considering the question of transport. Mr. Thomas estimated the cost of the clearing house at £8,980,000. This includes the cost of the whole structure, but was exclusive of machinery and equipment, or cost of site.

Houses instead of Cinemas.

The Housing Committee of the Hackney Borough Council, in view of the acute shortage of housing accommodation, has communicated with the Ministry of Health requesting that steps be taken to prevent the demolition of houses to provide sites for cinemas and factories throughout the country.

Architectural Partnership.

Mr. Sydney Tatchell, F.R.I.B.A., of 25, Queen Anne's Gate, has entered into partnership with Mr. E. H. Bouchier, F.R.I.B.A. (Messrs. Bouchier and Galsworthy), of the same address. Their practice as architects will be carried on under the style of Messrs. Bouchier, Tatchell, and Galsworthy, at 25, Queen Anne's Gate, S.W.1.

Bristol Society of Architects.

At the opening meeting of the session the President, Mr. G. C. Lawrence, A.R.I.B.A., suggested the desirability of forming a junior branch, in which students and other younger members might unite for study and discussion. The suggestion met with the general approval of the meeting, and senior members expressed their willingness to assist in supervising the work of the branch. It was arranged that a class for the study of design should be a special feature.

Excavations at Windsor.

Captain Vaughan Williams has made considerable progress with his excavations on the supposed site of Edward the Confessor's Palace in Windsor Great Park. Among the relics he has discovered are two hearths, 13 ft. square, in front of one of which is a fender of tiles laid flat, lime and sand being used as mortar. There are also remains of a chimney. A great quantity of wood ash has been unearthed, in which pieces of bronze have been found, including a piece of a wattle bone and an inch gauge. What appears to be the site of a banqueting hall, 45 ft. by 20½ ft., has also been found. A quantity of tiles, supposed to be a doorway to a room, have been discovered laid horizontally.

The Shipping, Engineering, and Machinery Exhibition.

It is but natural that at this revival of Olympia's series of exhibitions there should be matter of interest to the architect and the artists. Apart from the splendid models of steamships of all kinds, there are huge models of their harbours, with a great part of the cities of Amsterdam and of Rotterdam. The model of the Rotterdam Dry Dock Company's premises, comprising the garden city of "Heyplaat," built within their estate to house 900, is particularly interesting. The many blocks of quite charming houses vary considerably in design, yet without monotony homogeneity is attained. Traces of the influence of English work is distinctly traceable along with the influence of Dutch work. There are a piquant village church, a theatre, a boarding-house, schools, and, of course, recreation grounds, gardens, and tree-lined thoroughfares with fine views over waterways laden with shipping. One of the most original items in the show is the shop front to the exhibition stand of the Royal Nederlandsche Lood en Linkpletterijen (Royal Dutch Lead and Zinc-plate Works) of Utrecht, which shows a fine design, carried out entirely in polished metals such as are presumably supplied by the exhibiting firm.

COMPETITIONS OPEN.

October 31.—Portishead: Housing Scheme.

Designs are invited for lay-out of block of houses for the Urban District Council. Premiums £50, £30, and £20. Mr. C. F. W. Denning, F.R.I.B.A., and Mr. F. H. Smith have been appointed assessors. Further particulars from Mr. F. H. Smith, Surveyor, Council Offices, Portishead.

November 8.—Leeds: Departmental Stores.

Messrs. Marsh, Jones, and Cribb, Ltd., of Boar Lane, Leeds, invite applications from architects who have experience in the designing of up-to-date departmental stores, and who are prepared to submit, in competition, a sketch design for the new building they propose to erect in Boar Lane at a cost of about £200,000. Applicants should state on what similar work they have been engaged, and give such further information as they think likely to advance their claim to be admitted to the competition. From the names submitted, the promoters, with the advice of their assessor, Sir John J. Burnet, LL.D., R.S.A., will select a limited number to compete. In the competition the author of the selected design will be employed as architect. Those placed second, third, fourth, and fifth will receive premiums of 150 guineas, 100 guineas, 75 guineas, and 50 guineas. Premiated and other drawings will be returned to their authors. Applications to compete should be sent to Marsh, Jones, and Cribb, Ltd., Boar Lane, Leeds, on or before Saturday, November 8.

December 1.—Limavady War Memorial.

The Limavady War Memorial Committee invite qualified architects to submit designs and plans, with particulars of materials, for this memorial. First prize of £25, second prize of £15 for the designs and plans which are the two most suitable, those for which they award premiums to become their property. The awarding of a premium is not to constitute any engagement or undertaking that the successful architect will be employed to carry out the work. All plans and designs intended for competition are to be sent to the hon. secretaries, Limavady War Memorial, Town Hall, Limavady, co. Londonderry, on or before December 1, 1919. Simplicity and proportion will be preferred to profusion of detail and excessive costliness of material. Building in concrete blocks or ferro-concrete should be considered. The total cost of the building (including preparation of site) not to exceed £3,000.

January 17.—Southport: Secondary School.

Designs for a secondary school are invited by the Southport Education Committee. The successful competitor will be appointed architect for the school. Second and third premiums are 200 guineas and 100 guineas respectively. Assessor, Mr. Maurice E. Webb.

Architectural Award.

Messrs. Kelly, Clarke, and Poole, of Liverpool, were the successful competitors in the competition of the Bromborough Urban District Council for lay-out plans. The designs of Messrs. Rees and Holt, of Liverpool, were placed second, and those of Mr. W. W. Kenworthy third.

ALDWYCH SITE LET AT LAST.

The London County Council have agreed to let the vacant island site in the Strand and Aldwych at a rent of £55,000 a year on a lease of ninety-nine years. The site, which has four frontages, has an area of about 124,050 square feet, the ground rent being about 9s. per square foot per annum. The lessees are the Bush Company, Ltd., who propose to use the site to establish an exchange in London which will provide permanent exhibition and sale room space for manufactured articles, with a commercial intelligence bureau, commercial or trades libraries, and buyers' club. The general intention is to provide a meeting-place for buyers, combined with facilities for the purchase of goods from samples sectionally arranged by trades. Before completing the negotiations for the use of the site for commercial purposes, the secretary of the L.C.C. Improvements Committee inquired whether the Government desired to utilise it for any national or Imperial purpose, and a reply was received regretting that the Government was unable to take advantage of the opportunity of dealing with the vacant space.

TRADE AND CRAFT.

Builders and General Ironmongery.

A profusely illustrated and attractive catalogue dealing with builders and general ironmongery has been issued by Cope and Timmins (London), 1911, Ltd., of London. The catalogue covers a large range of external and internal fittings manufactured in various metals and designed to suit all tastes and conditions. To facilitate ordering each fitting is given a distinct number, and a list of abbreviations has been compiled to signify special colours and finishes. An illustration of each fitting and price is given and in necessary cases the size. The catalogue, the keynote of which is simplicity, shows a fine selection of attractive and refined designs, and should be on the bookshelf of every architect and builder.

Paint or Varnish Spraying.

On straightforward painting work it is claimed that one operator can apply paint or varnish at the rate of 3 sq. yds. per minute with the Aerograph portable painting equipment. The plant includes a 3-4 petrol engine. Briefly, the apparatus, which is intended to be used by two operators, consists of compressed air in a central container, which delivers such air to the spray painter proper (or appliance by which the spraying is done) by means of a flexible tube. This compressed air is also utilised to feed the paint from the paint pot to the same hand piece. The standard sizes of the paint pots are one and four gallons, but larger ones can be supplied. The paint pot is best kept near the operator, but the compressed air can be carried at a distance of 50 ft. from the air pump, if sufficient air tubing is provided. The actual spraying is done by compressing a lever which releases the compressed air and the paint at the same time; the latter is atomised and projected on to the surface required. Perfect control is obtained by opening the valve wider by merely pressing down the lever with the finger. The Aerograph Company, Ltd., state that they have received orders for the apparatus from H.M. Government, the governments of five foreign powers, and the leading commercial houses all over the world.

BRICK v. WOODEN HOUSES.

Comparative tables have been in the "Daily Mail" showing the day cost of materials necessary for building of a brick house and house, both of the same size and same plan. The figures, prepared by Ernest Trobridge, architect, and by Messrs. Adam K. Ball and Society surveyors, are, according to "Daily Mail," as follows:

BRICK HOUSES.		Per Weight.
		Tons. cwt.
Foundation	...	23 4
Internal paving	...	8
Brick	...	77 0
Timber	...	4 10
Plaster	...	8 0
Tiling and battens	...	6 10
Distemper	...	—
Rain pipes	...	—
Thatch	...	—
Totals	...	119 7
WOODEN HOUSES.		Per Weight.
		Tons. cwt.
Foundation	...	15 cwt.
Internal paving	...	Not necessary.
Brick	...	7 tons
Timber	...	12 tons 8 cwt.
Plaster	...	(Finished face)
Tiling and Battens	...	(See Thatch)
Distemper	...	Not necessary
Rain pipes	...	Include 1 in 10
Thatch	...	2 tons 14 cwt.
Totals	...	22 tons 17 cwt.

The brick house figures are taken from the priced bills of quantities on the approved Government scheme. The wooden house figures are comparative market prices. Where no comparison arises the items are omitted. The figures refer to material, and not to labour only. The timber quoted is English elm.

ARCHITECTS' ASSISTANTS' PROFESSIONAL UNION MUNICIPAL APPOINTMENTS.

The advertisement of the Gosport and Alverstoke Urban District Council for a junior draughtsman at a salary of £80 to £100 per annum according to ability and experience for a clerk at a salary of £150 per annum has raised a protest from the Architects' and Surveyors' Assistants' Professional Union. The protest, which has been signed by the Gosport and Alverstoke Urban District Council, and copies of which have been sent to the Press, asks for information as to the duties required of the junior draughtsman, and points out the duties of the draughtsman as understood in the profession. The association also makes comparisons of the difference in salary between two appointments and of the time in attaining the experience necessary for each of the appointments, and the rate of wages at present paid to draughtsmen labour. The association states: "We submit that the advertisement for the employment of a youth as a junior draughtsman in a small municipal office is to be deprecated as he has very small chance, as a draughtsman, of becoming proficient in the profession, and accordingly remains throughout his life an underpaid semi-skilled worker."

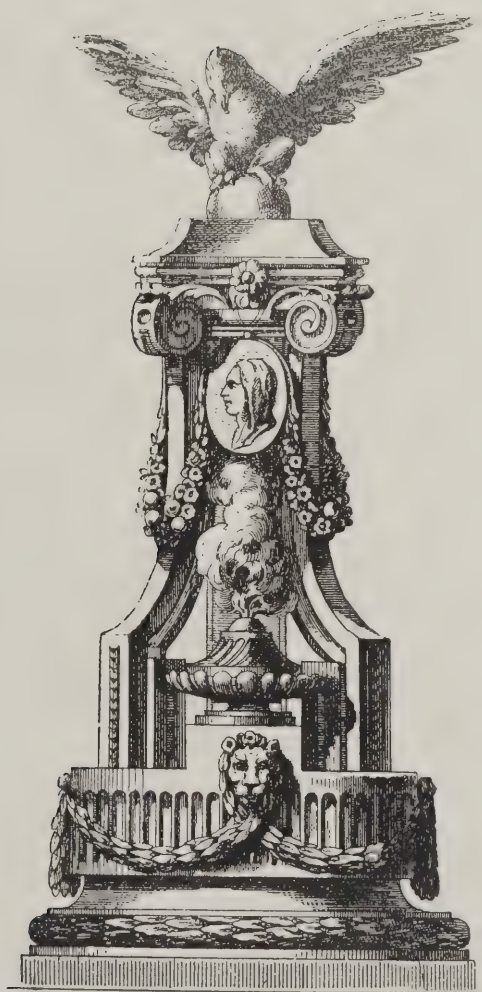
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THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS



DECORATIONS BY DE LA FOSSE (II.).

SOUTHAMPTON WAR MEMORIAL



Location facing East.

Edwin Lutyens
1914

Scale



SOUTHAMPTON WAR MEMORIAL. SIR EDWIN L. LUTYENS, A.R.A., ARCHITECT.

(From the Royal Academy War Memorial's Exhibition.)

THE ARCHITECTS' JOURNAL

Architectural Editor: Professor A. E. RICHARDSON, F.R.I.B.A. Literary Editor: J. FINDLAY McRAE.
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Dangers of Press "Stunts"

URING the war the collective energy of the nation was so preoccupied with the great task, upon the successful issue of which its very existence had to depend, that none could be diverted, even to the extent of observing all those changes which were taking themselves into the standards and habits of life. Now, however, when we stand, let us hope, on the threshold of a serener period, there is opportunity to survey the situation, and to take note of all the changes which are of a more permanent nature. One of the most prominent is the growth and pre-eminence in the power of the daily Press, which, it seems, is now in a position to make and unmake Governments, and to dictate internal and international policy, acting, indeed, as a piper, to whose tune the nation dances in childlike response, provided that the melody—punctuated by adequate instruments of persuasion—be blown sufficiently loud. Whether such a power is likely to prove of ultimate benefit cannot here be discussed, but power is easily abused or subverted to selfish ends, and it is not altogether unlikely that the Press may develop into as dangerous a despot as any which has preceded it into whose uncontrolled hands the destinies of nations have fallen. The methods of exercising this power are hardly such as would have been regarded in the best of taste fifty years ago, and those who will indulge in the almost heterodox practice of influencing action by thought may conceivably question the wisdom of embarking upon so many diverse and ill-considered campaigns just at a moment when the activities of the nation should be confined to the task of putting its somewhat disturbed house in

order. To denote a campaign launched with particular vigour, the accompaniment of the entire paraphernalia of an orchestra, endeavouring to make its appeal to ears supposed to be insensible to finer harmonies, the word "stunt" has been selected from the extensive vocabulary of words, into which, like many another, it was quite recently introduced, to define a reaction, of which in the last few weeks we had no cognisance. Of the magnitude, intimately affecting the architectural profession, it behoves us to give it unprejudiced consideration.

An unfortunate fact that concerning no other art or profession does such a state of lamentable ignorance exist on the part of the layman as with regard to architecture. That this is in no little degree due to the attitude of aloofness which the members of the profession themselves have adopted has been frequently pointed out in these columns, and this fact should be in our mind whilst passing judgment upon the events which are here under review. At no time, however, has the extent of this ignorance been so blatantly manifested as in the recent "stunt" cry for wooden houses and the changes which have accompanied it. At one moment the public is drawn to the continued survival for—in some hundreds of years of wooden houses as constitut-

ing a fact which must immediately overcome any opposition to their wholesale introduction into this country, care being taken to refrain from all comment upon the equally apposite consideration that for every house of this kind which has survived many thousands have been swept away by fire, whilst others have decayed first by reason of the very material out of which they were constructed. At another time we are told that bricks are scarce and expensive, whilst timber is plentiful and cheap. Here, again, the layman would seem to be ignorant of the fact that the cost of the brickwork in a house of the kind under consideration is only one-third of the total; consequently that any difference in price between a brick-and-timber house similar in other respects can only affect one-third, two-thirds comprising a constant figure; furthermore, that bricks can be made more rapidly than timber can be seasoned; neither would he appear to realise the disastrous results following upon the extensive use of moist and sappy wood. It should be noted, however, that, although it was against the Government that this attack was launched, it constituted, in fact, a reflection upon the competency of the entire profession, leaving the impression with the public that the lay writer in the Press was, indeed, more conversant with methods of economical construction than the architect. It is to be regretted, therefore, that no considered retaliation was made by responsible members of the profession, and that it was left entirely to the Government to deal with these fallacies.

To the "stuntist" nothing is sacred. That we possess a national tradition of cottage building, which is, indeed, the envy of other—and, it might seem, more enlightened—countries is to him of no account. Our priceless architectural legacy, to which each county has deposited, little by little, its own characteristic contribution true to its local tradition of stone or brick, of half timber or thatch, leaves him untouched as he calls to us to select our houses from a catalogue, just as we might order from America the newest form of motor-car, or quote for a consignment of electric torches, precedent for this delectable process having, it would seem, been established in South America. And so we are urged to cover our countryside with Messrs. So-and-So's No. 7a best mill-cut, or to mutilate our suburbs with the latest imported contrivance for speedy erection. Such statements as these, it might have been hoped, would at least have raised some protest from the profession, but they were left for the most part unchallenged, so that the evil suggestion was allowed to work undisturbed upon the mind of an ever-credulous public already tragically unappreciative of its own architectural possessions.

In the particular "stunt" under consideration much energy was expended in condemnation of the by-laws. That these laws require a certain revision, and that many of their clauses are obsolete and obstructive, there is little doubt. But it should, however, be remembered that one of the functions of these by-laws is to protect the health and safety of the public from unscrupulous enterprises, and that the far reaching and disastrous result of

adopting a procedure, which may best be denoted by a travesty of Lord Fisher's already famous utterance, "Scrap the lot," cannot be over-estimated. In some respects it is probable that most of our protective legislation—Building Acts, Factory Acts, and the like—may require revision, or at least they might with advantage be brought more into line with modern requirements, but, nevertheless, they still, for the most part, perform the highly useful function of protecting one portion of the community from the disastrous effects of abject folly, or an uncontrolled impulse towards undue exploitation of the other.

It would be unseemly to doubt that the motives which inspired these tiresome outbursts are purely disinterested, but, nevertheless, they can serve no useful function, and are, indeed, a source of grave danger and a cause of much harm. At one moment the cry is for concrete cottages, at another for *pisé-de-terre*, and recently for a

construction of timber. Figures to prove the one each over the other, and all of them over the most substantial and dignified stone and brick, are flung at the ignorant and unsuspecting public: concrete houses, much a ton, like coal; timber houses at so much the like oranges. It is all very pitiful and humiliating, as well as highly mischievous.

Meanwhile, the Government, one of whose main duties it is to safeguard the health and life of the nation, has undertaken a stupendous housing programme towards the successful issue of which it behoves us to contribute our share, our individual political opinions notwithstanding, and stunt campaigns cannot but be a harassing diversion, tending to stampede it into hasty and ill-considered action for which many thousands of Englishmen would suffer. When the last subsidies then let the shoemaker return to his

H.

Notes and Comments

"The First Municipal Garden City."

WHEN, on October 21, the Housing of the Working Classes Committee of the London County Council, brought forward its recommendation for the compulsory acquirement of 3,000 acres in Essex, the opposition was perfunctory, and the objections were so feeble as hardly to require answering. A member who declared that he was "opposed to the whole scheme" complained of the "great and unnecessary extravagance" of building only eight houses to an acre in suburban London. Then, again, "recreation grounds in the midst of building areas were very expensive; and while they would all like these amenities of life, they must ask, 'Can we afford it?'" It is wonderful that in spacious days like these anyone has the patience to listen to such nonsense. That, having acquired your land, you should immediately discount the value of the purchase and discredit the virtue of the action by packing in as many houses to the acre as the law will allow, is a heresy that is all the more dangerous because it is, to a certain type of mind, so very plausible, and because it has so long passed current, thoughtless persons therefore taking it for ultimate wisdom, especially at a moment when miserly economy, camouflaged as "anti-waste" is the gist of the latest "stunt." One grows weary of proclaiming—what should be, but alas is not, a matter of common knowledge and common sense—that there are things that should be infinitely more precious than a neatly balanced ledger. Nation of shopkeepers that we are, how seldom do we perceive that municipal administration is not an affair of the counting-house, where values are items of exact ascertainment. If we put up too many houses to the acre, we make, obviously, a certain saving that can be recorded in the accounts; but what of the losses attendant on so infamous a practice? They are elusive, the hospitals and sanatoria they necessitate not being so closely associated with them in the common mind as they certainly should be; while the epidemics, the lingering illnesses causing poverty and misery, the inefficiency arising from unhealthy environment—all these consequences are ignored; whereas in actuarial estimates they must be "allowed for." And yet we find a member of the London County Council squealing with terror at the bare idea—as it happens, quite an erroneous notion, born of panic fears—of eight houses to the acre, and getting cold shivers down his spine at the proposal for a park. "Recreation grounds in the midst of building areas are very expensive!" They are: but not nearly so expensive as the ills they prevent. Really one feels ashamed to have to remind the metropolitan council of such elementary truisms. To the majority of the Council, however, the restatement is quite unnecessary, for the

resolution approving the scheme was passed unanimously, in spite of its "great and unnecessary extravagance."

Architects' Assistants on the Warpath.

If the Architects' Assistants' Professional Union is careful, it will soon constitute itself a first-class nuisance. It is becoming very active and alert, as if its organs knew that "You must stir it and stump it, And blow your own trumpet, If you want to get on in the world." In other and less purely poetical words, an aggressive attitude is essential to the success of a youthful organisation, not of an old one. It has to make itself known, if possible, to make its power felt. It was wise, therefore, in the Assistants to send to the Gosport and Alverstoke Union a protest against the slight esteem in which architectural assistance seems to be held by that assembly of corporations. It is highly scandalous that in an instance an architectural draughtsman should be offered a payment which an errand-boy would refuse with contempt and indignation, and the endeavour to effect redress in such cases is certainly a legitimate exercise of the functions of the Union. A well-organised campaign can soon dispose of the evil. It is very difficult, however, to help the unorganised, and the raid against mean and poor conditions should, to be successful, be accompanied by a recruiting campaign. Undoubtedly the plea of the architectural assistant cries aloud for redress, and it seems expedient to begin with corporations, who, if they have no souls, are at least responsible to an electorate that, generally speaking, has a sense of fairness and would save it from the *bêtise* of valuing a draughtsman at half the price of a dustman.

The Open Door.

All the conditions in which the architectural draughtsman works need overhauling. His selection (or, if wise), his training, his manner of entrance to the profession (or his habit of clinging rather desperately to its shelter), his present position and future prospects—all these questions require exhaustive inquiry, to precede any action. It is announced that the Union is about to propose with nominations for membership, thus removing the difficulty that isolated assistants have in obtaining an introduction. This is no doubt a counsel of expediency, though one cannot help regretting it. Entrance to the union and entrance to the profession should be alike formal and dignified. By-and-by, when the Union gets stronger, it should insist on high credentials. There is but little likelihood, however, that it will ever be swamped with incompetents, who, more often than not, lack the backbone to join a union or, too weak to stand persuasion to join it, soon fall away from

ably the Union will require credentials from its members. It would lose caste if no sort of test were required, and would also make a very inconsistent practice in any attempt to keep the profession free of unqualified interlopers. Entrance to the profession, however, is too serious a matter to be treated lightly by the Union. It should, and probably will, engage the earnest attention of the Institute and Society of Architects.

Building Trades Labour Crisis Averted.

A brief paragraph in last Saturday's newspapers stated that "After two days' negotiations the dispute in the building trade, involving 250,000 workers, was settled in Manchester last night. Graduated increases in wages were granted." Thus curtly is dismissed a dispute that at one moment had become so critical that it had led to a situation of the utmost gravity in our world. Fortunately the excellent machinery of the National Conciliation Board has once again proved itself in the amicable adjustment of disputes, and a threatened national calamity has been averted. But how long? That is a very serious question indeed. Complaints have been made from time to time that the men in the building industry are singularly apt to make agreements binding them to a period during which they are to abstain from requesting further alterations. Such agreements are indefensible and, besides being a source of heartbreaking annoyance to employers, are in the long run most damaging to the prestige of the workers and the value of their word. Yet there is perhaps some shred of excuse for such flagrant breaches of good faith; and it is to be found partly in the nomadic life of the worker, who, knowing that he is "here to-day and gone to-morrow," has correspondingly little regard for agreements binding him to observe certain conditions for a period of months, or (as some very shrewd employers would have it) even for a term of years. It seems so inconsistent to discharge at an hour's notice a man who is tied to an agreement holding him, as it were, to a contract extending over a considerable period. It is not really inconsistent; but it is always in seeming inequitable. Greater security of employment would result in much less unrest.

Stratford-on-Avon as an Industrial Town.

Through the enquiry held to determine whether or not the Corporation of Stratford-on-Avon should be allowed to sell certain lands to a Birmingham firm who intended to erect thereon an aluminium factory was last Thursday, the result is not yet known, and it would be bad form to say anything here and now that is contrary to the report which the Assistant Commissioner has made to the Charity Commission. It is permissible, however, to say a word or two on the general question. The first thought is that the corporation of a town so seldom qualified to control its amenities. It is more fortunate that there is some sort of a court of appeal at which aggrieved persons can express their views. At Stratford the matter was thoroughly discussed; but on whose judgment does the issue rest? On that of the Charity Commission, who may or may not be impressed with the strength of the case put forward by Sir Henry Lunn, Sir Sidney Lee, Sir Whitcomb Wallace, and others, for preserving the character of Stratford-on-Avon as a Tudor town. Surely there should be some competent tribunal to whom such questions could be referred in full confidence that they would be intelligently considered. Until some such body is formed the architectural organisations and the town-planning Institute should make it their business to keep alert for such incidents as the proposal to build a factory within a couple of thousand yards of the town's birthplace. Stratford-on-Avon transferred to Stratford-by-Bow would be a sorry condition; but in some wave of industrial frenzy it might ultimately happen, unless a Ministry of Art and Industries were empowered to prevent it.

Building Trade Apprenticeship.

As every reader of this note will be aware, the organisations of employing builders have had under consideration for many years the question of apprenticeship. After long and anxious deliberation, they have at length adumbrated a scheme for reviving the apprenticeship system in a new and an improved form. This tentative scheme has doubtless formed the basis on which the Building Trades Apprenticeship Committee, formed at the instance of the Ministry of Labour, and including representatives as well as employers, has drawn up a set of conditions that is said to offer a reasonable probability of solving the grave problem of maintaining the supply of skilled workers in the building industry. We shall be glad to give publicity to the details of the scheme as soon as they are available. In the meantime, inquiries should be addressed to the Secretary, Building Trades Apprenticeship Committee, Howard Hotel, W.C.2.

Retirement of Mr. W. E. Riley.

Mr. W. E. Riley's retirement from the position which he has held so long and so ably as architect to the London County Council has now taken effect, and Mr. G. Topham Forrest has succeeded him. No light responsibility rests on the shoulders of the architect charged with the care of the building interests and obligations of the L.C.C., and, seeing with how great a multitude of details he had daily to deal, how large an army of subordinates he had to control, to say nothing of the army of taskmasters who felt themselves entitled to sit in judgment on him, it is marvellous that Mr. Riley's native urbanity was never once known to forsake him. It is almost equally wonderful that, with so much to do, he did it all so well. Of all the many schools and houses that he put up, there is not one that is not comely and commendable in design and unimpeachably sound in construction. Nor is this all for which we have to thank him. Constantly he has had to advise the Council on building policy and procedure, and it can be asserted with the utmost confidence that always his guidance has tended towards amelioration. To him, no doubt, are owing more or less directly the revisions that have brought some of the Council's by-laws into conformity with modern requirements; while to modern methods and materials he always gave courteous attention, adopting them freely when that course seemed to be warranted. His retirement should give him abundant opportunity for exercising his delightful talent as a painter. Success to his brush and palette!

St. Mary Abchurch.

An appeal is being made by the rector of St. Mary Abchurch, Cannon Street, London, who asks the public to help him to save the church from ruin. He states that the timbers on which the dome rests are worm-eaten, and may collapse at any moment, and that Mr. George Hubbard, F.S.A., Fellow and Past Vice-President of the Royal Institute of British Architects, estimates the cost of restoration at not less than £5,000, which was the price for which Wren undertook the entire building in 1686. A large church stood on this site in 1272, but, together with the neighbouring church of St. Lawrence Pountney, was destroyed in the Great Fire. St. Mary Abchurch (Upchurch) has a very plain exterior—sooty brickwork that once was red, and then may have had charm, with stone quoins. This being the latest of Wren's domed churches, the dome, as representing the results of the master's ripe experience with this feature, is worth study, the transition from square to round, with double-groined vaults, being remarkably dexterous. The interior is goodly to look upon, containing—especially in the singularly beautiful reredos—some of Grinling Gibbons's finest work; while there is a painted ceiling by Sir James Thornhill. It is a right characteristic Wren interior, the more so since it has suffered very little change since it was finished to his satisfaction, and is seen much as he saw it.

Architectural Causerie

IN early life I passed five years with an architect of fastidious taste who believed in studying the minor details of building; for, as this gentleman frequently observed, you may ruin the reputation of years by allowing a shoddy lock to disgrace a well-designed door. Since those days I have taken pains to gather information regarding locks, keys, handles, bolts, and escutcheons, and although there are plenty of other subjects awaiting the touch of my pen, I feel the present to be the time to empty out the contents of my notebooks, if only to focus the attention of architectural students on a matter apt to be overlooked in the quest for immediate achievement. Besides, good locks are required in thousands for the newer housing. From books I have informed myself of the countless variety of locks, stocks, and barrels; all the devices and conceits of keys provide entertainment for my rainy days. I have interviewed the keys of the monarchy, the Church, and the Army. I have examined the locks of Old Newgate, the silver keys of Versailles, the chased brass locks of Hampton Court, and the delicate fastenings of shagreen knife boxes. Much information I have gained indirectly in this way, realising, for one thing, that architects have few of the problems of mechanical engineers, other than to ensure the easy movement of doors and windows and the clock-like precision of a good lock. Locks can be defined as box fastenings, in which a movable bar or bolt is worked by the action of a key. There is a lengthy allusion to a lock in the twenty-first book of "The Odyssey," and another is the third chapter of Nehemiah, to be precise, verse six. It is conjectured that the earliest locks were of simple design, consisting for the most part of wood.

* * * *

There is an early Egyptian lock in the British Museum typical of the system of lock in use in the Middle East to this day. This form of lock works on the principle of a bolt, releasing three pins into corresponding grooves when the bolt is pushed home, a key raising them again. The Roman understood the possibilities of warded locks, but many years passed before the complicated devices of the Middle Ages made their appearance on the Continent. The Chinese first invented the lever, or tumbler, lock, but until specimens came to England attached to the tea chests in the late eighteenth century its use was unknown in this country. This design formed the basis of Bramah's patent. Letter locks, the prototype of the modern combination locks, became popular in England about the time of the Reformation, the construction comprising certain letters formed on rings, which were required to be formed into words before the lock would operate. From the ancient models all the principles of the modern lock have been taken. English smithery has always been noted for the wonderful examples of this, the highest form of the smith's craft. There are wonderful locks to the oaken doors of the cathedrals, the "stoklocks" of the fourteenth century, some of which must have been made at Dunstable and supplied to the Abbey of St. Albans, as well as to the churches of Leighton Beaudesart and Luton, and possibly to the curious church door at Salford, near Fenny Stratford. We are told of the achievements of one Mark Scaliot, a cunning smith of Elizabeth's day, who produced a lock with a pine key, approximating in weight to two grains of gold. In the meantime the Germans were busy, and many locks of cunning design richly wrought rivalled the clock-working machines of Nuremberg. Tudor locks comprise the finest specimens of sixteenth-century art, and in this I doubt not the steelyard smiths wielded their hammers and shaped the metal with good intent.

* * * *

When Pepys was reorganising the affairs of the Navy and holding converse with the shipwrights of Chatham

soon after the Restoration, Henry Somerset first introduced the invention of the detector lock. From the quarter of the eighteenth century to the present hundreds of patents have been granted for improvements in locks and fastenings. In 1784 Bramah patented his lock, which had a sliding bar with notches cut on edge, a design perfecting the earlier Chinese idea. Architects of this period paid great attention to the selection of locks. In this they were continuing traditions inspired by Sir Christopher Wren and his men of his school, for there were Tompions among lock makers when the elaborately chased brass, working with the click of a clock movement, was screwed to Dutch William's oak doors at Hampton Court. In the time of my lord Burlington, locks were described as "well-known fastenings for doors, in view of present-day prices the following information is of interest, but it should be remembered that the chasing power of money was then five times the value of currency at pre-war rates. Plain stock-locks from 10d. to 14d. each or more, s-bitted stock-locks a long pipe 1s. 6d., very strong s-bitted and very strong stock-locks 7s., and plain brass locks from 5s. 10s., but these were reserved for the best rooms. The first floor brass knob'd locks in iron cases were used at a cost of 3s. each. Double spring locks for closet-door locks 1s. 4d., while pad, or secret, locks with slits instead of pipes could be purchased for 1s. To complete the list, plate stock locks cost 3s. 8d., brass-locks in shut cost 4s. 6d., brass-knob'd locks in shut 6s. 6d., and very large iron-rimmed locks 10s. each. Such were the names and prices of the locks specified by William Kent, Brettingham, and others, but the patrons of those days were willing on occasion to go to £50 for something special.

* * * *

When I started this week's chatter I had no idea that the first half of my subject would have occupied so long in the telling, but much remains to be said, and I must continue. If I had time I should like to re-examine the locks used by Soane at the Adelphi or England. This architect was one of the first to recognise the merits of Jeremiah Chubb's patent, which was formed with six separate and distinct double-acting tumblers, with the addition of a detector. The architects who followed Soane made full use of these perfected inventions as and when they appeared on the market, or when described in the "Architects' and Engineers' Journal" of the 'forties. In general the highest class locks of the eighteenth century covered the whole range of metal work sympathetic to the architectural expression. The locks introduced at the Square for Alderman Beckford were rim locks of a particular character. Taylor, Pain, the Adam Brothers, Lynton and Holland, favoured the mortice lock with cut plates in brass, and a safety knob worked independently of the main lock, for Lady Teazle at the time desired to keep out unwelcome intruders.

Eighteenth century and other locks can be classified under the group system: there are "indoor" locks and "outdoor" locks, and various sub-divisions of these. There are the draw-back locks of entrance doors, and there are the wooden spring stock locks of back-doors. In rooms there are the mortice, used after 1760, and sometimes finished with drop handles, as is the case in the Bedford-square; the brass case, large in Wren's day and small towards the close of the eighteenth century; and the rim locks of the second and third-rate houses, and curious open latch locks which came into use after 1790, and continued in favour for forty years. From 1760 onwards the mortice lock was invariably used in the best houses. Mortice locks with one bolt were called "dead or closet locks"; the addition of a spring bolt



KEYS OF VARIOUS NATIONALITIES AND DATES.

(See *Architectural Causerie*.)

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le to open it, gave it the title of two-bolt, and if
 rtice was fitted with a private bolt it was called a
 bolt lock.

* * *
 n locks and their types we can discuss lock furni-
 appliances, by which the mechanism of the
 ng is set in motion. The best mortice locks com-
 wo knobs, a bolt knob, and two escutcheons with
 Sometimes drop handles are preferred to knobs,
 others it is thought advisable to introduce the
 ate of fiddle pattern, with the knobs or drops in
 Finger plates belong to the nineteenth century;
 vas no need for such excrescences in the days of
 any; neither were they required to protect grained
 ppled woodwork. I have chanced upon some
 rory and Copeland china finger-plates in my study
 furniture, at times I have so far forgot my ethics
 glass plates, but in these enlightened days I am
 to follow the mode and omit ebony, oak, maple,
 glass, and china, and similar conceits from my
 ations.

* * *
 ng attempted a summary of all kinds of locks, it
 s for me to talk of keys, and this I shall do in the
 : wav. for their variety is legion. Key collecting
 ted in this country when the key-board became an
 ion in the great house. All the principal keys

were accounted for in this way, but the special keys were
 kept in a bunch at the housekeeper's waist, and the
 butler guarded the large steel key to the wine cellar.
 Since those careful days we designers have evinced
 unusual interest in the fashioning of keys. We express
 satisfaction with the shape of the handle, the baluster
 formation of the stem, the intricate pattern of the ward,
 and the artistry of the whole. Where are the keys
 designed by Cellini, with grotesque figures forming part
 of the handles? Where are the silver keys once the
 delight of Madame de Pompadour, the master keys
 owned by Lord Chesterfield and his compeers, that cost
 over 30s. each; the silver-gilt keys belonging to the wal-
 nut escritaires of the old ladies of Chelsea, and the iron
 knuckledusters of the Fleet Prison and the City
 Compter? With so many collectors about it is a wonder
 that the keys of the City churches remain in position.
 On page 529 will be seen some illustrations of
 keys belonging to different nationalities; they exhibit
 characteristics of aristocratic aloofness, and all have
 played some part in the comedy of life. To-day locks,
 keys, and door furniture can be obtained equal in work-
 manship to the best examples of the past; as things go
 the cost is not excessive, but let the young architect
 beware of the cheap lock, the shoddy hinge, and the
 tricky bolt, which, introduced on the score of economy,
 provide work for tinkers and worry for the poor tenant
 or owner. (See also double-plate.) AERO.

Architectural Education—A Criticism and a Programme*

By LIONEL B. BUDDEN, M.A., A.R.I.B.A.

ALIVE surprise is sometimes expressed by English
 architects at the very slight prestige which their
 profession enjoys outside its own membership.
 the war the injustice of the lay estimate was
 acutely that some of the official leaders of the
 ion were moved to indignant protest. It seemed
 climax had been reached. Government depart-
 had shown that they thought no more highly of
 ices which the architect might render to society
 than the unenlightened public did in times of
 a most distressing revelation. Offers of assist-
 om the Institute itself had been either ignored,
 oted to so limited an extent, and in a manner so
 as to imply a doubt of the value of the services
 By the more imaginative, dark suspicions were
 ned of a policy of studied neglect—a policy
 d in high quarters and intended deliberately to
 the entire architectural profession, to humiliate
 to throw discredit upon its pretensions. But if
 the explanations put forward at the time seemed
 meet the case, it was because they begged the
 . They took it for granted that the average
 , the profession as a whole, was competent and
 eived a complete education in the technique of
 ure. Make that assumption, and the attitude
 public and of the services becomes indeed a
 Question it and the matter may assume
 complexion.

are the facts? Taking the profession as it
 England, one has first to observe that a large
 on of those who style themselves architects
 oth in virtue of their capacities and of their
 ce, the most shadowy claims to the title. They
 t they are free to adopt it, and do so in an
 attach to themselves a dignity which their real
 could never command. The absence of
 ratory system of professional education adminis-
 -qualified authorities, and the fact that the
 the architect is in consequence not defined by
 arliament make the practice inevitable. Natur-

ally the effect upon the lay mind re-acts prejudicially
 on the reputation of architects in general. Next it
 must be admitted that the great majority of architects
 practising in the country to-day are office-trained. Of
 these, some have endeavoured to increase their technical
 resources in the early days of their pupilage by attend-
 ing night classes, and later by occasional European
 excursions. But in the main their horizon has been that
 of the office; and though a number of them have risen
 to positions of great influence in the profession, that has
 been chiefly due to commercial ability, to social con-
 nections, or to personal popularity. For the sphere of
 the architect is still one in which such values are of the
 greatest importance.

Now, whatever may be the function of an architec-
 tural office, decidedly it is not to undertake the
 systematic teaching of architecture. It would be dis-
 couraging to speculate upon the illusions possibly
 entertained by the Victorian parent when he paid the
 premium and approved the articles which were to ensure
 his son's proper initiation into the art. Perhaps he saw
 the foundations being laid broad and deep; imagined
 that somehow the head of the office had secreted a staff
 of expert instructors, specialists in every branch of
 architectural technique, whose business and plea-
 sure it would be to devote their whole time to
 instilling knowledge into the novitiate; believed
 that there existed somewhere out of sight, yet
 in the office, a well-furnished constructional
 museum, galleries devoted to casts and models,
 and an extensive library. It is probable, however, that
 he thought none of these things, but was merely hypno-
 tised by the word "practical." The precise form of his
 illusions is irrelevant to our subject. The results are
 not. They amount in effect to this: That real education
 in architecture is a thing which nine out of ten architects
 have simply escaped. And of that fact the outside
 world has had extensive and painful experience.
 Lastly, it has to be conceded that the attempts made to
 organise architectural education scientifically are too
 recent for the fruits to be apparent except amongst a
 younger generation that has scarcely emerged into the

* Previous correspondence on this subject, readers are referred to the
 the Royal Institute of British Architects, December 1917, and
 a February, 1918.

field of independent practice. Moreover, those attempts have been so lacking in co-ordination and have been so little assisted by the policy of the Institute, that they have not been able to accomplish more than a small fraction of what they ought to have done.

In the light of these facts, is it any wonder that Government departments are at one with the public in treating the architectural profession with less confidence and respect than they accord to the medical or legal profession? An accredited system of education, universally operative, alone can give any sort of guarantee of competence. Without that, architects in general cannot reasonably expect their claims to be acknowledged, for they cannot rightly establish them. It is nothing to the point that here and there architects have survived office routine; have, in spite of it, acquired a real knowledge of their art. They have done so because they possessed abnormal ability and enthusiasm. Such men are not representative. If to them be added that other, still smaller, minority who have received a French or American training, and who have yet elected to practise in England, they are altogether too few to leaven the profession as a whole. The body can be judged only as a body—and so judged it is found wanting.

The root of the matter is education. Until that is put right nothing else can be. From time to time there have been rumours that the authorities of the Institute were addressing themselves to this urgent task. About eighteen months ago it was privately reported that the heads of the recognised schools were to be summoned to confer with the Board of Architectural Education, and that a broad, comprehensive scheme of reform would be evolved as a result. But a species of inertia appears to paralysed the Institute in these matters. We are presented with the spectacle of all the preliminaries to movement—debates and so forth. Committees are understood to be receiving evidence and preparing reports. There are even hints of impending action. It is impressive, and our expectations are duly raised. But nothing happens; and so long is it since our hopes were first excited that we are almost driven to suspect that it is intended that nothing shall happen.

The present position which the Institute occupies in regard to architectural education is essentially false. To embark upon a detailed indictment of that position would require more space than can here be devoted to the purpose: but the main points can briefly be given:—

- (1) The Institute is not an association of experts in architectural education, nor even of persons who have, as a rule, received a systematic training. It is such a body as would naturally be the product of a transitional period in the development of a profession. The qualifications of its members are varied to a degree, and the aggregate contains

elements that were admitted because it was essential to admit them, and for no other reason.

- (2) Whilst very properly not attempting to undertake the teaching of architecture, the Institute assumes, as one of its functions, the responsibility of holding examinations and granting educational qualifications.
- (3) The Committee—called the Board of Architectural Education—which is entrusted with the business of devising and controlling the examinations, derives its authority from the Council of the Institute, its members being appointed by the Council; and the Council itself is elected by general suffrage on matters that are rarely, if ever, related to education.
- (4) A proportion of the members chosen to serve the Board are by vocation engaged in teaching. But of these some are merely co-opted and have no voting powers; and the selection of the electors in both categories—whether as voting or non-voting members—is not based on equitable principles of representation.
- (5) From the policy of the Board it is evident that expert members carry far less weight in its deliberations than do the general practitioners, though they are sometimes indifferently instructed in the technique of architectural education, and can at best devote to the subject only the incidental attention of their very brief leisure.
- (6) Through its Board of Architectural Education the Institute continues to commit itself to an obsolete system of examinations centralised in London, a system inherently vicious in that it directly encourages office-pupilage, cramming, instructional correspondence, and the maintenance of the machinery of hack education. Only in the case of the Intermediate Examination is any reasonable alternative permitted to students. The content of every stage of the Final—the qualifying examination, without passing which no candidate can become an Associate of the Institute—is reserved in the hands of the London Board. It is thus established a complete divorce between the authorities responsible for teaching and those charged with the business of examining. In the latter, the nominees of the Board, are consequently competent to judge of candidates' ability purely on external evidence obtained under restricted and abnormal conditions. The whole procedure, a centralised Board, imposing arbitrary tests, leaving to chance the methods of preparing for them, ignores the lessons of educational experiment and modern practice. It is a simple anachronism. That in brief is the case against the Institute. It is a case that in various forms has been stated before



RECONSTRUCTION OF WATERLOO STATION, LONDON: ELEVATION TO WATERLOO ROAD.

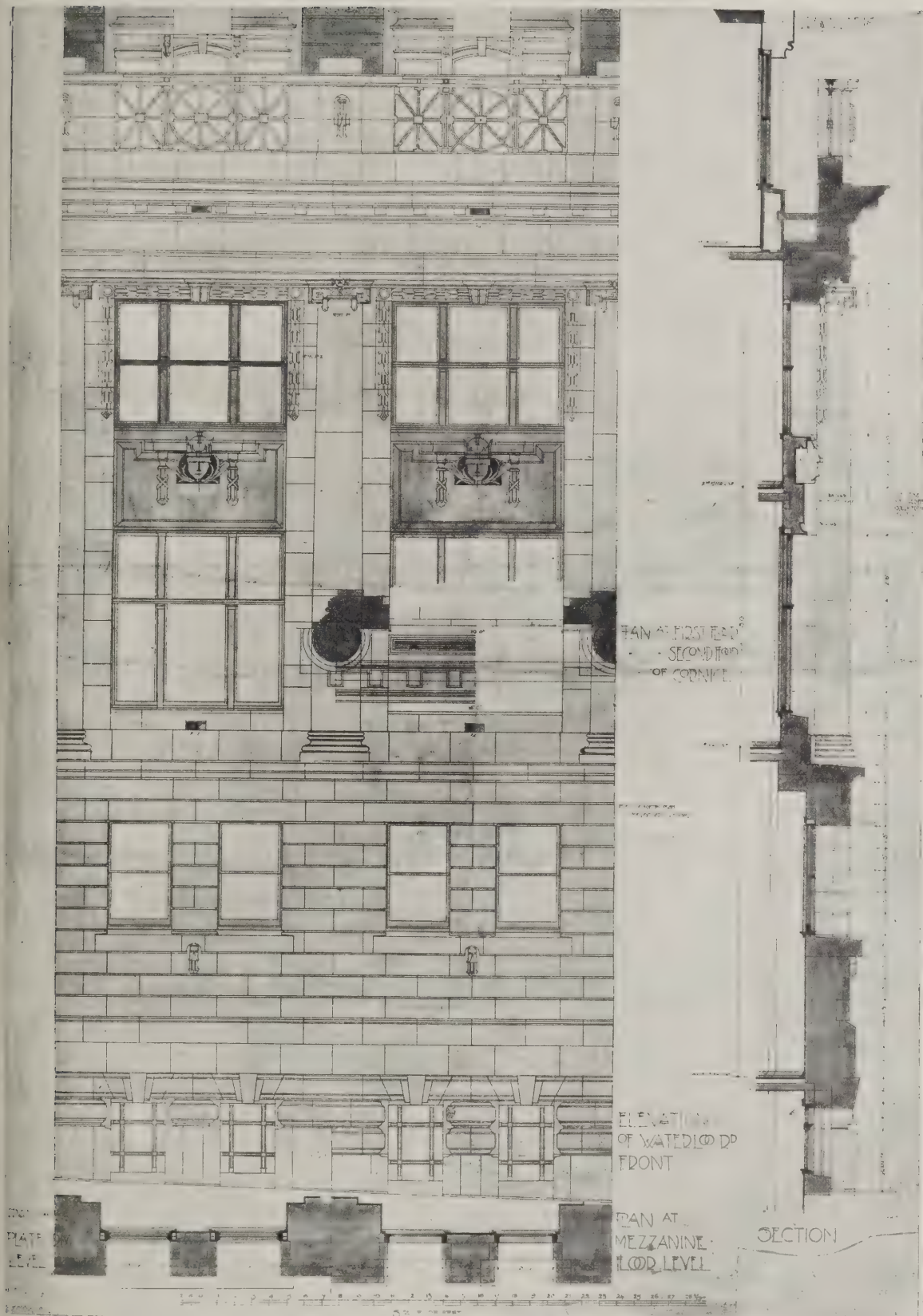


RECONSTRUCTION OF WATERLOO STATION, LONDON: ELEVATION TO WATERLOO ROAD.

A. W. SZLUMPER, M.Inst.C.E., CHIEF ENGINEER.

J. R. SCOTT, ARCHITECTURAL ASSISTANT.

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RECONSTRUCTION OF WATERLOO STATION, LONDON: DETAILS OF ELEVATION TO WATERLOO ROAD.

A. W. SZLUMPER, M.Inst.C.E., CHIEF ENGINEER. J. R. SCOTT, ARCHITECTURAL ASSISTANT.

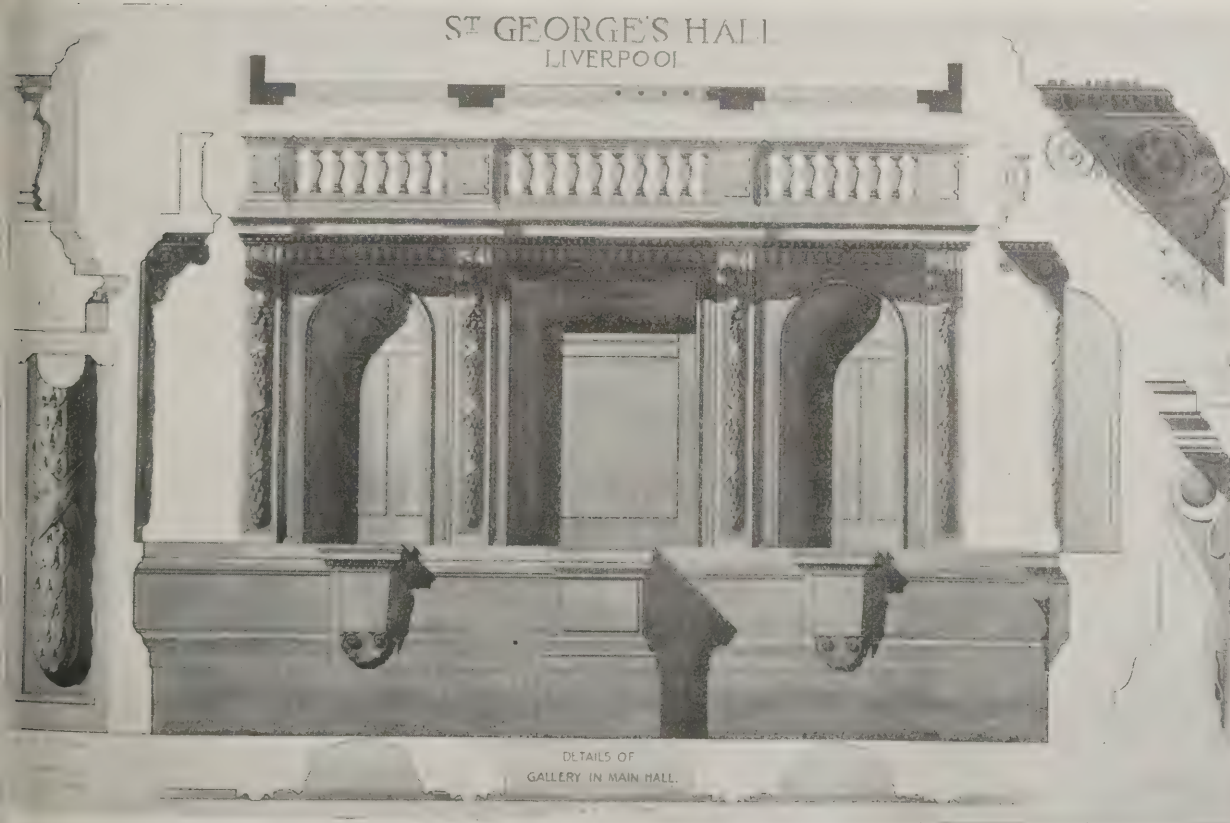
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ever been met by any logical defence; and it cannot be so met. The path of reform is clear, and has been pointed out on many occasions. As it still is to be adopted, its outline may be indicated. Those professions which enjoy real prestige are delegated to the universities the work of educating, and granting standard qualifications to their members. In this respect the Institute cannot but follow the example of the most powerful professional body in the country—the General Medical Council. For academic status is what the architect needs to place him on the same footing as the doctor, and nothing less than that, will secure for him the privileges and authority he is at present denied. To achieve this end the first necessary step would be for the Council of the Institute to appoint an *ad hoc* committee composed of (1) the heads of the recognised universities; (2) experts in architectural education representing the Council. This committee should be charged with the duty of devising a curriculum for the Degree in Architecture that would justify the Institute in accepting the Final Examination of such a course as equivalent to the Institute's own Final Examination. So that a graduate in Architecture would, by virtue of his being a graduate, be eligible for election as an Associate of the Institute. Within three months of its appointment the Committee should be required to present to Council a report definitely forcing its proposals. (Bearing in mind the object to be achieved, it might confidently be assumed that the committee would recommend that the course should—just as for the ordinary medical degree of M.B., Ch.B.—be not less than five years.) The Council would then be in a position to approach the Universities and to request them to include within their curricula the course prepared under its direction. As a number of universities already possess architectural schools, and grant degrees in Architecture, the request would be less than might appear at first sight. Granted academic authorities were sufficiently consulted in the preparation of the scheme, its immediate and

universal acceptance by the Universities would be a foregone conclusion.

In the interests of the profession it would be necessary to provide some safeguard that would ensure an approximately uniform level being maintained throughout the courses in each University, and to see that the Final Examination in all cases reached the requisite standard. This could most effectively be done by making the professors in charge of the schools, *ipso facto*, Members of the Institute's Board of Architectural Education; and by making it a condition that the external examiners in Architecture, nominated by the Universities, should be persons approved by the Board as a whole. The Board would in effect become the instrument whereby the Institute supervised the administrative aspect of architectural education and preserved its equilibrium. What has so far been advocated is really an extended application of principles already permitted to operate in the case of the Institute's Intermediate Examination. But more than that remains to be done. A time-limit—say 1930—must be declared by the Institute, after which its own centralised examinations will be discontinued and be superseded by those of the University School. That final step is essential if the problem is to be completely solved: and a complete solution alone is adequate to the case.

Certain obligations, corollaries of the programme here set forth, would devolve upon the Institute. The influence of the Council would be required to secure that any important schools not now having academic rank were duly affiliated to Universities; to encourage officially the creation of new University Schools; and to do everything possible toward obtaining financial assistance for the endowment and equipment of architectural education generally. The benefits which would accrue from the whole policy advocated are incalculable. The Institute would be freed from a technical responsibility which it is unfitted to discharge, architectural education would be established on a broad and reputable basis, and the change would



DETAILS OF GALLERY IN MAIN HALL, ST. GEORGE'S HALL, LIVERPOOL.

(Measured and drawn by David Jones, Liverpool School of Architecture.)

be effected without inflicting any injuries. Part-time and short-course training would automatically be eliminated. Decentralisation, accompanied by the enforcement of a minimum standard, would foster a healthy spirit of rivalry amongst the schools. The claim for Parliamentary Registration would be irresistibly strengthened. And the prestige of the profession would be assured beyond question.

It is not as if the Institute were being urged to indulge in an untried experiment. The examples of France and America exist to show what the results would be. In the former the Beaux Arts is virtually a University of Fine Arts. In the latter, between a dozen and twenty universities award degrees in architecture. The profound difference between the position which the architect occupies in those countries and the position which he occupies in this is sufficient proof of the success of the academic system. Nor need it be feared that the Institute, if it released its present strangulating grip on architectural education, would lose any authority as a professional body. It would no more do so than the British Medical Association has done. Its real services would continue to be as indispensable to the welfare of the profession as they have been in the past. Every graduate in architecture would find it necessary in his own interests to join the Institute, whilst the fact of membership being ultimately limited to persons with academic qualifications would add enormously to the power of the Institute itself. Surely now, at this time of general reconstruction, the profession should see to it that its own house is put in order.

[It is unnecessary for us to add that Mr. Budden's challenging article is published entirely without prejudice. The policy of this journal is to represent all phases of opinion on questions of architectural interest; and we shall be only too glad to open our columns to a full discussion of the matters at issue.—EDS. A.J.]

Collective Thinking by Architects and Public

IN the course of an address before the Washington State Chapter, American Institute of Architects (reported in the "American Architect"), Mr. Carl F. Gould, head of the Department of Architecture, University of Washington, said that what we need is, first of all, more collective thinking, both on the part of the architect and on the part of the public, and until we do think more nearly alike it is doubtful whether we will make progress towards a permanent architecture. I am sure I perceive protest, protest against uniformity—it has been our slogan above all to be original. The public says, build me a house, I don't care what or how; the only condition I make is, it shall have absolutely no semblance to its neighbours. Any suburban street in any American town is evidence of this fact. A heterogeneous assortment of every period and type, and the whole commonplace, misfit, sterile, and terrifying in its ugliness.

The newer education shows tendencies toward a more rational and greater uniformity of method. It does not discard historic precedent; it brings into the foreground the great masterpieces of the past for inspiration; it analyses them in terms of the then existing conditions, but, above all, it teaches us to solve our present-day problems in terms of practical requirements, conditions of construction, materials, locality, and climate. It remains for our educational process to be willing to search our greater universal tendencies and develop our thought in their direction. However much we older men may be able to adjust our thinking process to the newer order, for the newer order is coming as certain as day follows dawn, we can never do so with the agility of the embryonic archi-

tect or the student who is now getting his ground established. Our schools of architecture should be the most fertile preparatory field for the mould in which eventually must find a niche. We can only hesitate to forecast what this mould will be, and prepare imperious courses of instruction for the boys who contend for pursuing them.

Two things, Mr. Gould urges, are to be avoided: the following of historic precedent with such servility as to create misfits; and the utter ignorance of precedent and creation of sterile riot of individualism. No architect's education could, we believe, be complete without an intelligent understanding of historic styles, without being able to interpret the subtle finish of the Greek, the sumptuous dignity of the Roman, the austere aspiring quality of the mediævalist. The student's problems will by no means close at this. He must be taught the processes of analysing a problem accurately in terms of its conditions; be able to reduce the complex into its component elements, sense the essence of a problem, place them in their relative order of equal skill, whether the plan of a workman's cottage, an industrial plant or a courthouse. All the while his thoughts must be shot through with an awakened sense of relative truth in form of proportion. This sense of pure beauty to be attained variously by drawing, modelling in clay, exercises in colour, and in the abstract study of form or æsthetics.

In this analysis of instruction we cannot omit that of mathematics and of construction, the necessary which is well recognised. Just as the figure of a fully clothed man is his flesh and blood, full of action and in living, is only possible if the bone framework is in place, so a knowledge of the framework of art or structure and its members must be thoroughly attained.

The Plates Described

Southampton War Memorial.

THIS design, which is now on view at the Academy War Memorials Exhibition, is a more resting variant of the Whitehall cenotaph. It is more elaborate than its famous prototype, but not less, think, so successful. The gain in ornament is a slight, that clear-cut austerity which is the Whitehall monument's peculiar charm.

Some Old Keys.

These keys—all charming examples of the locksmith's craft—should be studied in conjunction with this "Architectural Causerie" on page 528.

Office Buildings at Waterloo.

The illustrations in this issue show a section of the façades to the approach road of the reconstructed Waterloo. The building has an important site, being the most prominent elevation to be seen from the York Road approach. Hence the engineers and architects have rightly given it a distinct elevational treatment. A general plan of the new lay-out was published last week, together with photographic and other views, including a drawing of the entrance for foot passengers which occupies a position adjacent to the façade illustrated. The architectural work was designed by Mr. J. R. Scott, architectural assistant to Mr. L. Szlumper, M.Inst.C.E., chief engineer. The whole is being carried out under the direction of Mr. C. Hawes, A.M.Inst.C.E., assistant engineer for the works.

A Student's Drawing.

This is one of a large number of well-drawn, cleanly rendered compositions of Classic and Renaissance elements presented by first-year certificate students of the Liverpool School of Architecture. It is typical of the excellent work that is turned out by students of the seaport university.

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ENGLISH EIGHTEENTH-CENTURY KEYS FROM THE COLLECTION IN THE VICTORIA AND ALBERT MUSEUM.

(See *Architectural Causerie*, page 5-8.)

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The Royal Academy War Memorials Exhibition

variety of form in the exhibits were the sole test of exhibition such as that which is now being held at Burlington House, a mere casual glance would be insufficient to enable the visitor to pronounce it a distinct

But since quality is a not unimportant consideration, it is impossible for the unbiassed critic to form a completely favourable judgment. Here signs for monuments and memorials of all sorts are to be seen, ranging from huge piles of masonry to simple designs from stained-glass windows to illuminated manuscripts, from sculptured figures to tablets and tapestries. In spite of the variety of subjects and the very fair level of technical execution displayed, the quality of the designs must, on the whole, be adjudged moderate. It seems as though designers generally were working in a groove, and have neither the courage nor the ability to get out of it. In this exhibition there are only 400 exhibits; yet barely a round dozen of them can be said to have a distinct individuality of their own, and are entirely worthy of the occasion that has brought them forth.

In sculpture, there are numbers of life-size figures in conventional poses, meant to express certain characters or emotions; yet, in most cases, were it not for the description in the catalogue, one would never know they really are. There are numbers of models for monuments of the familiar pedestal-and-group type, all of which show a strong family likeness one to another, and are of the sort that resemble nothing more than shipwrecked mariners on a rock. The effect of crowding a bunch of crudely realistic figures into a form of absurdly limited capacity, so that they seem to be in imminent danger of falling off, is now so completely discredited that one cannot but be distressed that it is still resorted to by sculptors who are capable of better things. On the whole, it cannot be said that the exhibition, in the matter of sculpture, shows anything that reaches a high plane as an imaginative creation—anything that is truly and recognisably typical of the great war. It must of course be very difficult to convey in the material terms of stone and marble any abstract expression of the profound emotions stirred by the war; yet one thing is true: never will anything really fine be accomplished without the perfunctory recourse to trite and commonplace.

Architectural designs are mostly of good average quality, particularly the smaller objects, such as tablets, triptychs, and so forth; but if one thing is to be stated more than another by the exhibition it is the use of simple Roman lettering for memorial purposes. The commemorative panels and medallions, with incised or printed inscriptions, are among the most effective things in the whole exhibition.

Impossible in the space at our disposal to deal with even a tithe of the exhibits: so the following brief notice is concerned only with a few of the more prominent objects that caught the eye during an afternoon's visit to the exhibition. The first thing to attract the eye is a model of the Great War Cross, standing in the courtyard. This is the design of Sir Reginald Meldrum, R.A., and a replica of it is to be erected by the Imperial War Graves Commission in British and Dominion war cemeteries abroad. The cross stands on a polygonal base, and is of heroic dimensions. There is nothing singularly appropriate about this great symbol of sacrifice, which is to stand sentinel over the dead of the Empire's illustrious dead in all parts of the world. Inside the building, the octagon is largely devoted to sculpture groups, one of the most effective being a group entitled "Humanity and the New Age," by Mr. G. Wyon, representing a female helmeted figure, looking forward somewhat in the manner of Rodin's "The Thinker," and drawing a babe to her side with her right

arm, upon which is a shield. A fine group, this, full of tenderness and possessed of a peculiar brooding spirit.

Beyond, in Gallery VI., the principal exhibit is a full-size model of the Great War Stone designed by Sir E. L. Lutyens, A.R.A., and to be erected in the war cemeteries abroad. The stone is a simple oblong, standing upon a base of three steps. There is a nobility in its stark simplicity that could never be achieved in a more elaborate design; and the whole effect is heightened by the inscription that it bears in beautiful Roman characters on its sides: "Their Name Liveth for Evermore." The stone has much in common with the Whitehall Cenotaph, of which, by the way, there is a perfect little model in Gallery VII. Sir Edwin Lutyens shows an interesting though rather more ornate version of his famous Whitehall monument in the Southampton War Memorial (No. 334). This is illustrated on the frontispiece of this issue. The Spalding War Memorial (Nos. 290, etc., also by Sir Edwin Lutyens) is an excellent piece of formal design, with the war stone in the centre. One of the features of Gallery VII. is a model of a "Pantheon of the Five Dominions," a fine domed composition in the Byzantine manner. (Mr. Robert W. S. Weir, architect; sculpture by Mr. Gilbert Bayes; decoration by Mr. H. Wilson.)

No. 342 shows an interesting design in the Classic manner for a War Memorial Art Gallery at Aberdeen, by Messrs. A. Marshall Mackenzie and A. G. R. Mackenzie, the principal feature being a concave colonnaded front. In this gallery (VI.) there are also eleven cartoons for stained glass by that accomplished artist Mr. C. W. Whall. These are worthy of close study, as much for their sincerity of draughtsmanship as for their suitability to purpose.

Exhibits that will be studied by most with intense though painful interest are the three specimens of regimental headstones (308), which are to be erected by the Imperial War Graves Commission in British and Dominion war cemeteries abroad. These are quite simple in design, incorporating the regimental badge, name, number, and regiment, with, in some cases, a brief inscription and a religious symbol.

Mr. T. F. Wilson exhibits an effective water-colour (299), "Design for a War Memorial," somewhat similar in inspiration to Bartholomew's "Monument Aux Morts," in Père Lachaise.

The colonnaded screen is employed with considerable effect by Mr. Edward Maufe in his Ilkley War Memorial design (364); and another interesting scheme in which the colonnade is used is that of Mr. Hubert Gregory (369), who, however, diminishes the value of his horizontal masses by perching an isolated column above them. Some delightful examples of lettering on bronze, slate, or parchment are to be seen in Nos. 249 (Mr. N. W. Britton), 252 (Messrs. C. A. Ll. Roberts and W. H. O. Tennant—exhibited by the Birmingham Guild, Ltd.), 254 (Mr. A. E. R. Gill), 255 (Mr. M. C. Oliver), 240 (Messrs. Graily Hewitt and Allan F. Vigers), 246 (Mr. Christopher St. John), and 232 (Mr. C. Coleman).

The Johnson memorial tablet (No. 241—Mr. Bert Hollander) is particularly good, but what need is there to call the great lexicographer "celebrated"?

Of panel and pediment memorials there are a number of excellent examples, including Mr. E. Guy Dawber's "Design for War Memorial to East Anglians," G.E.R. Offices (No. 121), and Mr. H. H. Jewell's "Regimental Memorial" (114). There are many other well-designed architectural panels which, to our great regret, we have no space to mention here. Of the many positive ineptitudes we will, of our charity, say nothing. The exhibition, as a whole, is full of interest. Many of the exhibits are excellent of their kind; but the really great war memorial has yet to be designed.

Scottish State-Aided Housing Schemes

TO expedite the preparation and carrying out of State-aided housing schemes the Scottish Board of Health have issued a memorandum which gives the summary of procedure to be followed in preparing the details for the approval of the Board. When the local authority has determined the number of houses required, and the number they propose to erect, they should then proceed as follows:

Selection and Acquisition of Sites.

Select a site or sites provisionally and have them inspected by an officer of the Board. On receipt of his report the Board will indicate whether the area or areas meet with their approval. Where it is proposed to erect houses on several sites it is not necessary to delay the submission of an application for approval of a site until all the required sites have been selected. The Board will in such cases consider applications for approval of individual sites.

When the Board have given their provisional approval of a site, the negotiations for acquisition should be entrusted to the district valuer. When the terms and conditions on which the site can be acquired have been ascertained, application for the Board's formal approval of the site should be made, together with the particulars required by the Form A. This form, copies of which may be obtained from the Board, asks for particulars with regard to the locality, area, cost, and name of the owner of the site, the number of houses to be erected, and the proposals of the local authority as to water supply, sewerage, scavenging, and lighting.

Appointment of Architect.

Appoint a qualified architect on condition that his fees will not exceed those prescribed by the Institute of Scottish Architects and approved by the Board. Intimate the appointment to the Board, stating that it is made subject to the above condition. The names and addresses of the architects on the panel lists will be found in the Board's Circulars of February 22 and May 14, 1919. The Board do not, however, insist on the appointment of a panel architect, and the appointment of an architect need not be delayed pending the acquisition of a site. He can meantime be proceeding as in the next paragraph.

Preparation of House Plans.

Proceed with the preparation of the plans, sections, and elevations of the proposed houses. The architect's attention should be drawn to suggestions in the Board's Memorandum of July, 1918, and to selected plans and designs issued in June, 1919, copies of which have been forwarded to the local authority, and may be obtained from H.M. Stationery Office, 23, FORTH STREET, Edinburgh. When these plans have been finally adjusted and adopted by the local authority, they should be submitted for the Board's formal approval, together with the particulars required by the Form B, which include details as to the number of houses of various types to be erected, the number of houses to the acre, and the accommodation provided.

Preparation of Lay-out Plan.

Prepare a lay-out plan as soon as the Board indicate that the selected site is suitable. This plan also should be sub-

mitted informally as a pencil sketch in the first instance. When the plan has been adjusted and adopted by the local authority it should be submitted to the Board for formal approval, together with the particulars required by Form C. These particulars deal with the area of the site, streets, open spaces, and land reserved for building sites and other purposes, and the details to be shown on the lay-out plan. It is preferable that the street sections referred to in the next paragraph should be submitted at the same time, but only if no delay will be incurred.

Street Works.

If any street works require to be executed, submit longitudinal sections showing the present ground level and the finished surface, and also type cross sections showing the proposed construction. Invitations to tender should be made by advertisement. When the above sections have been approved by the Board, specifications and schedules should be prepared and tenders obtained. A list of all tenders received, showing the amount of each tender and the name and address of each tenderer, the tender with priced schedule which it is proposed to accept, and the next two lowest tenders should be submitted for the Board's approval before any offer is accepted.

If desired the street works may be carried out administratively by direct labour. In that case an estimate of the cost of carrying out the works, together with a specification containing the schedule of prices on which the estimate is based, should be submitted for the Board's approval. This application should be accompanied by a statement giving the reasons for proceeding by direct labour, and the number of men proposed to be employed.

Other Services.

Concurrently with the above, consideration should be given to the arrangements to be made for the expeditious execution of the works required for the provision of water, sewerage, and lighting services.

Appointment of Measurer: Supply of Building Materials.

Pending formal approval of the type plans, appoint an independent measurer on the condition that his fees will not exceed those to be prescribed by the Faculty of Surveyors and approved by the Board. Intimate the appointment to the Board, stating that it is made subject to the above condition. In districts where it is the practice for the architect to act as measurer, the Board would be prepared to consider an application for approval to a joint appointment, but they are of opinion that, wherever practicable, an independent appointment of a measurer should be made.

The measurer should obtain from the Board a copy of their Specification Notes and thereafter arrange for an early meeting with one of the Board's surveyors with a view to an adjustment of the general specification of works. This is desirable to obtain uniformity of practice throughout the country, and to obviate unnecessary revision of the specification and schedules of quantities when submitted in draft form. The preparation of the specifications and schedules of quantities should then be put in hand by the measurer, and he should have regard to

the arrangements made by the District Building Materials Supply for the of materials. These arrangements relative price lists, are set forth in the Board's Circular of June 16, 1919, being lithographed or issued as tractors, the specifications and schedules of quantities should be submitted to the Board in draft form.

Submission of Tenders.

When the draft specification schedules of quantities have been approved by the Board, invitations to tender should be made by advertisement. When tenders have been received and considered by the local authority, a list showing the amount of each tender and the name and address of each tenderer, the tender with priced schedule which it is proposed to accept, and the next two lowest tenders, should be submitted for the Board's approval before any offer is accepted.

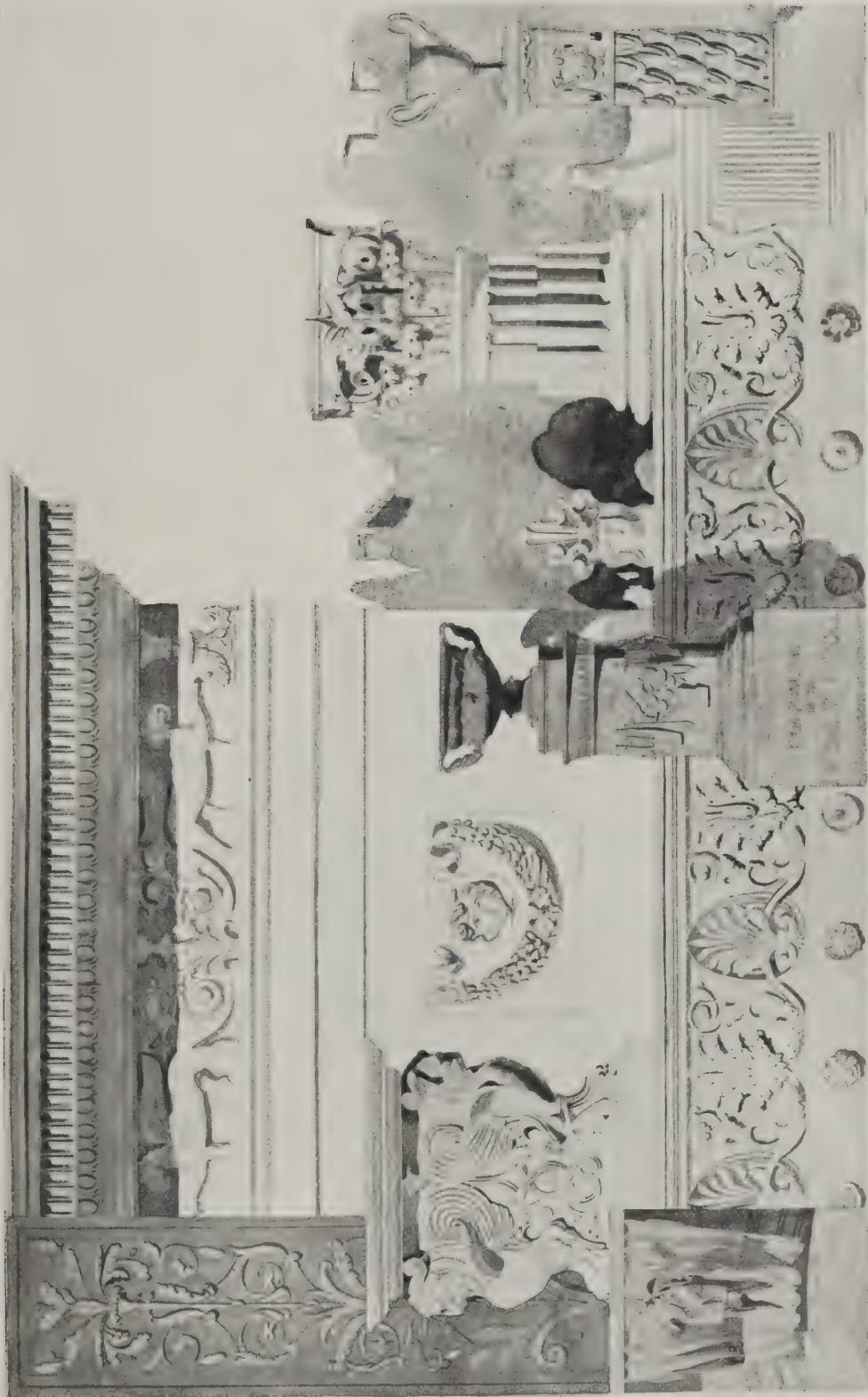
General.

No binding agreement should be entered into as regards (a) the acquisition of sites, (b) the appointment of architect, measurer, and (c) the acceptance of tenders and carrying out of any works connected with the scheme, until the approval to the proposals has been obtained. The Board's approval should be necessary to the terms of the District Charter or Disposition before the completion of the site can be deemed completed.

Temporary Housing Accommodation.

The Scottish Board of Health have prepared to consider any proposal submitted by a local authority for the provision of temporary housing accommodation by the erection of Army huts. In a Circular, T.P., No. X. 1919, the Board state the cost of acquiring, adapting, erecting the huts, and of obtaining land on which the huts may be erected, approved by the Board, would be regarded as part of the cost of the local authority housing scheme under Section 10 of the Housing, Town Planning, etc. (Scotland) Act, 1919, and would rank for the assistance accordingly. The Board would also be prepared to consent to borrowing for the purchase and re-erection of these huts, the period of repayment being a matter for consideration of each individual case.

The Board will be glad to consider proposals on these lines submitted by any local authority, and to furnish particulars of suitable available arrangements. Arrangements have been made with the Surplus Government Property Board whereby huts will be sold to local authorities in priority to any other purchaser at a discount of 33 1/3 per cent below the valuation of the property determined by the Disposal Board, or if their valuation is challenged, by an independent valuer. Where huts already exist in any district and the local authority propose to acquire any of them, the Board will be glad to receive proposals to decide as to whether the type should be approved. The arrangements are only to be regarded as temporary emergency measures to tide over the present difficulty, and that local authorities must, at the same time, proceed, as expeditiously, to formulate schemes for the erection of permanent houses.



A COMPOSITION OF CLASSIC AND RENAISSANCE ELEMENTS. BY R. E. MACMURRAY.

(Liverpool School of Architecture.)

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Formulae v. Graphics

By ROBERT F. SHERAR, ARCHITECT.

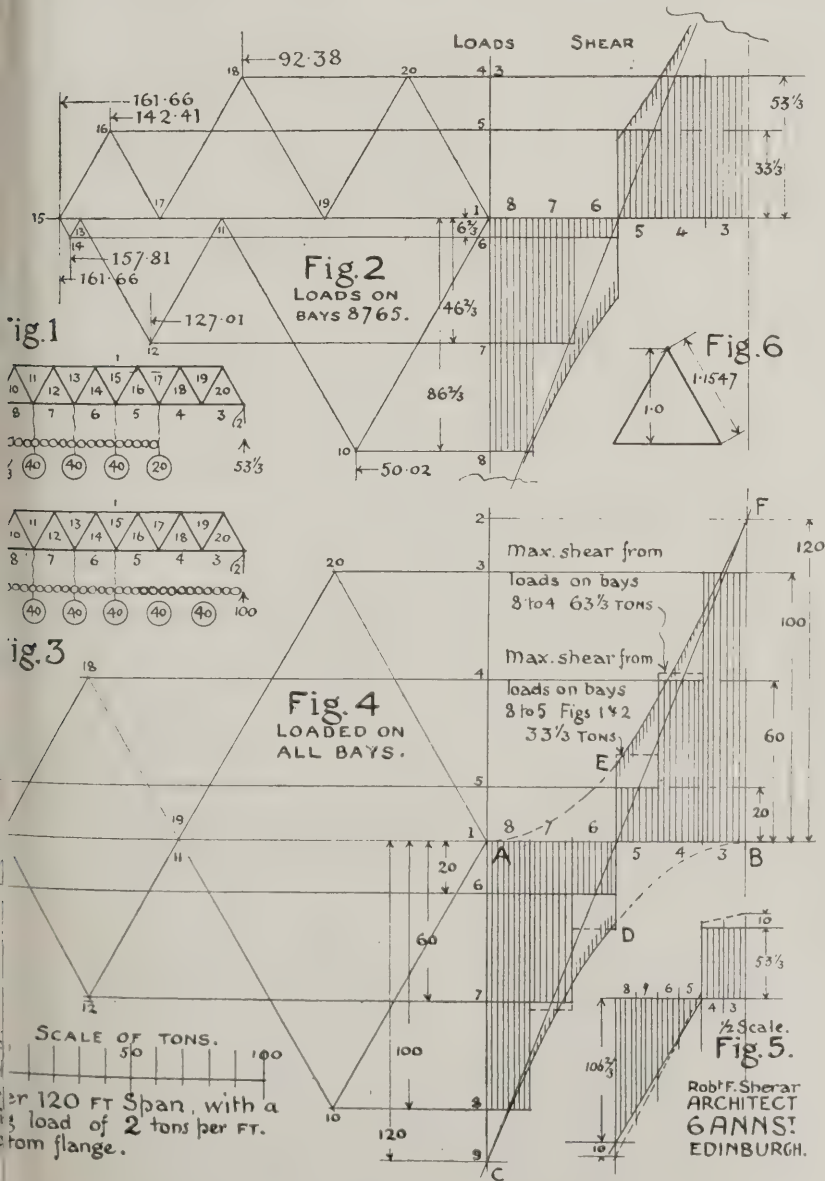
often been stated in this journal elsewhere that architects have found in the more technical department their business, especially in connection with engineering formulas. This has been specially noticeable in reinforced-concrete construction; every day again complaints are made that there is too much algebra and too much symbolism used. From this it is seen that the question of the relative merits of calculation and graphic calculation has been antagonistic to one another. The real difficulty, however, has arisen owing to the fact that, as formulas developed, no doubt aid of a generous use of graphic calculation has prevented their being published at the most expensive books. In the days it is different; diagrams are relatively cheap, text-books are better, and great advances have been made in giving graphic calculation proper status. The difficulty has reference to the question of statics itself apart from the question of graphics. The subject of statics has developed tremendously in the last fifty years owing to the demands of steel and in general building construction,

but, owing to the very nature of this development, which has been gradual, statics has only developed piecemeal, the result being that there is no elementary treatise which one could say was either convincing or complete. One gets a little in this book with special reference to one subject, and a little in that with reference to another subject, and one requires to string them all together to form a complete conception which will be of any real or practical value. A very curious example is given in a well-known text-book, where the stresses in the various members of a Warren girder are all calculated, both graphically and by formula, showing that the two sets of calculation do not agree. The author, while stating that doubtless they should agree, declares himself unable to say why they do not. This coming from an accredited authority is certainly not encouraging.

As a matter of fact it can be easily demonstrated that the results by the graphic method are correct and the other wrong in various important points. The girder is illustrated in Figs. 1 and 3, and has to sustain a rolling load of two tons per foot, supported on the bottom flange and of sufficient length to cover the entire length of girder, 120 ft. The length of the

girder is divided into six bays, forming a series of equilateral triangles of 20-ft. sides. The weight of the truss is not considered. Supposing the load to advance from left to right, a reciprocal diagram is constructed to show the stresses as each bay in rotation is covered by the load. These stresses are then collected in a table, and the maximum tensional and compressive stresses produced in each bar are taken as the stresses on which to design the truss. The author says the labour by this method is, of course, very great; it is really only about half an hour's work. Two of these cases are shown in Figs. 2 and 4 for the conditions shown in Figs. 1 and 3 respectively. The shear at the supports is equal to the reactions in each case, and the shear at each bay is got by subtracting the load on each bay in rotation, as shown by vertical hatching on the shear diagrams. These agree with the loads on the load line 4 to 8 (Fig. 2) and 3 to 8 (Fig. 4), from which the reciprocal diagrams are drawn.

Up to this point the only calculation called for any remark is that for the reactions. For the loading on Fig. 1 the three forty-ton loads being symmetrical in themselves can be taken as acting at their eq. between 6 and 7, giving for left-hand reaction $40 \times 3 = 120$ tons $\times 4$ bays $\div 6$ bays = 80 tons, to which has to be added the 20 tons $\times 2$ bays $\div 6$ bays = 6 2-3 tons. Total 86 2-3 tons, which, subtracted from the total load of 140 tons, leaves 53 1-3 tons for the right-hand reaction. The various stresses can now be scaled from the reciprocal diagrams, and if accurate results are desired it would be difficult to imagine a more easy problem: for every length on the reciprocal diagram of which we require the calculated value (for both flanges and braces) forms one side of an equilateral triangle, of which the various altitudes are known as on the load line. We have therefore only to multiply these by 1.1547, as shown on Fig. 6, to get the length of the side of any triangle on the reciprocal diagram and add these together for the various bars as required, as follows: In Fig. 2 the stress in bar 19 1 = $53 \frac{1}{3} \times 1.1547 = 61.584$, the stress in 15, 16 = $33 \frac{1}{3} \times 1.1547 = 38.49$, the stress in 16 5 = $(61.584 \times 2) + (38.49 \div 2) = 142.41$, etc., 1.1547 being the secant of 30 deg., the angle the bars make with the vertical equals the length of bar, 20 ft., divided by the vertical height, 17.32. The total results are given in the table below, the first and third columns being from the book referred to, and the middle column calculated as above, showing that the graphic method is correct for all intents and purposes, while the calculated method is very wrong.



No. of Bar.	By scale from recip. diag.		Correct calcul. as described above from recip. diag.		By calcul. formula at fault.	
	ten.	com.	max. ten.	max. com.	max. ten.	max. com.
1 10	—	115	—	115.47	.96	116.43
10 11	115	—	115.47	—	116.43	.96
10 8	58	—	57.735	—	63.51	—
11 1	—	115	—	115.47	—	115.47
11 12	4	74	3.718	72.169	8.66	77.94
12 7	150	—	150.111	—	155.88	—
12 13	74	4	72.169	3.718	77.94	8.66
13 1	—	184	—	184.752	—	184.75
13 14	15	38	14.434	37.528	24.05	47.15
14 6	196	—	196.299	—	202.07	—
14 15	38	15	37.528	14.435	47.15	24.05
15 1 centre	—	207	—	207.846	—	207.85
15 16	38	15	as the load recedes the stresses are symmetrically similar to those above.			

Where the formula is wrong will be seen by a glance at Fig. 3. The total load on

girder never exceeds 40×5 , whereas the formula assumes the load as distributed, and therefore giving 40×6 . Hence the top boom stresses are given correctly, because the bending moment at the centres of these bars agrees with the ordinates to a parabola of which the centre ordinate is $\frac{WL}{8}$, but the bottom boom

stresses are all too large, as they should have been taken from ordinates cut off by chords to the parabola. Again, the stresses in the braces are all too large, as they have been taken from the shear curve C D E F (Fig. 4), while the actual shear values as shown never reach this curve at the proper apex points.

The maximum shear value for Bay 5 occurs when the load is over 8 to 5, as shown on Fig. 2, and by symmetry on Bay 6 when load is receding—that is when over 6 to 3—both as noted on Fig. 4 amounting to 33.13 tons. A similar remark refers to the maximum shear in Bays 7 and 4, amounting to 63.13 tons. Fig. 5 shows the shear diagram for an actually distributed load over Bays 8 to 5, and as the weight of such a girder itself would amount to about twenty tons, it should be added as shown by dotted line. The most peculiar result of the formula calculation is the tensional stress in bar 10, which could not possibly occur, but the most interesting part of it is the affinity that the distributed load formula has for the actual conditions, as shown by the fact that while a tensional stress of .96 is given, which could never occur, and a compressive stress of 116.43, which is too large, the actual stress is the algebraic sum of these two, viz., $116.43 - .96 = 115.47$.

WHITECHAPEL HOUSING AND TOWN-PLANNING EXHIBITION.

The Garden Cities and Town Planning Association, in co-operation with the Trustees of the Whitechapel Art Gallery, has arranged for a Housing and Town Planning Exhibition to be held at the Whitechapel Art Gallery. The exhibition will be opened on November 4 at 3.30 p.m. by Mrs. S. A. Barnett, C.B.E. The chair will be taken by the Right Hon. Lord Burnham. The exhibition will remain open for four weeks, closing on November 30. There will be no charge for admission. Foremost among the exhibits will be the schemes prepared by local authorities under the new Housing Act. Plans and lay-outs will be exhibited showing what has been done, and what may be done in the future. The Ministry of Health is co-operating with the Association in this section of the Exhibition, and the "Daily Express" models of approved houses will be on view. Plans, lay-outs, and photographs of war-time housing schemes will occupy a large and important section.

The Letchworth Garden City will be illustrated by the material which has been collected by the Association. Photographs and plans of the second Garden City at Welwyn will also be exhibited. Another section will deal specially with town-planning and civic surveys. The work of public utility societies in the past will be shown by plans and photographs. Schemes which public utility societies have in hand for the future development will also be shown. A section dealing specially with London will show the historic development of London and suggestions for future development. The

foreign section will include exhibits from the United States, South America, France, Belgium, Holland, Norway, Italy, Australia, and India.

A series of lectures dealing with the London problem has been arranged. Among the lecturers are the following: Professor S. D. Adshead, F.R.I.B.A., Professor of Town Planning at University College, London, and Messrs. H. R. Aldridge, Secretary, National Housing and Town Planning Council; G. D. H. Cole, M.A., Fellow of Magdalen College, Oxford; W. R. Davidge, F.S.I., A.R.I.B.A., A.M.Inst.C.E., Chief Executive Officer of the London Housing Board; W. Rees Jeffreys, late Secretary to the Road Board; and Captain R. L. Reiss, member of the Advisory Housing Committee to the Ministry of Health, Chairman of Executive of Garden Cities and Town-Planning Association.

RAPID ERECTION OF HOUSES.

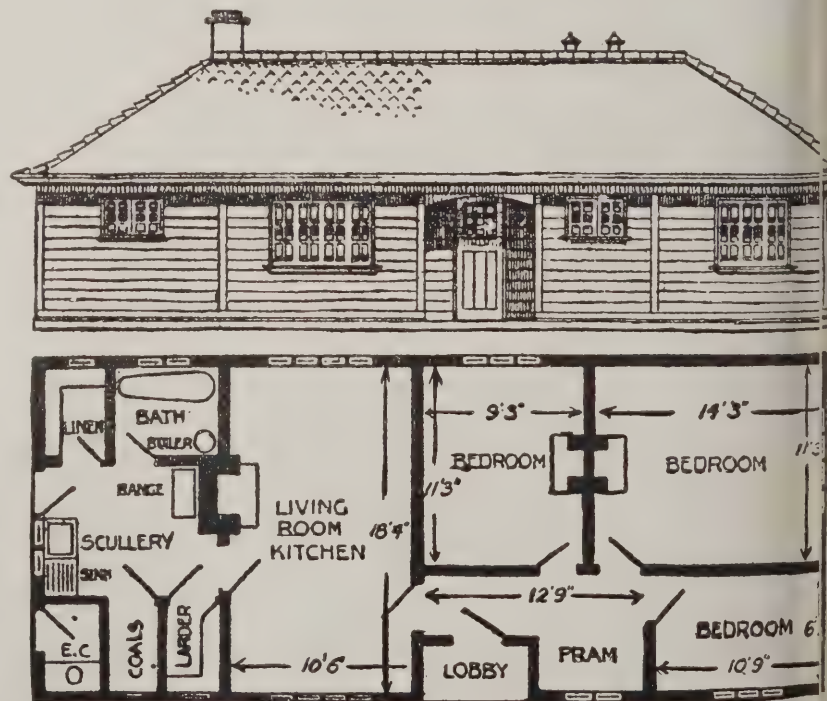
The Ministry of Health make the following announcement: "The Ministry of Health are negotiating with a number of firms in regard to large-scale erection of houses in such materials as wood, reinforced concrete, interlocking and terracotta hollow bricks, steel and concrete construction, and asbestos sheeting, with a view to securing a more rapid erection of houses to meet the present urgent needs of the community. Messrs. Boulton and Paul are prepared to erect a large number of one-storey wooden bungalows on a plan now approved by the Ministry of Health. The approximate cost of each bungalow would be about £600, exclusive of water supply, drainage, fencing, paths, entrance gates, etc. The equipment includes complete concrete foundations, baths, kitchen range, stoves in the bedrooms, boiler and brick chimney, and the walls will have an inside lining of fibrous plaster. The accommodation of such houses would include living-room, kitchen, and three bedrooms. Messrs. Boulton and Paul hope to be able to build at the rate of 1,000 bungalows a year, and to have some erected by next spring. The Ministry

would allow the local authority for in which to repay the loan raised, purpose of providing these bungalows.

THE ALDWYCH SITE

In view of the interest aroused, letting by the London County Council the vacant island site in the Strand Aldwych, referred to last week, and of our staff interviewed a representative of the Bush Terminal Company, secured the site at a rent of £55,000 on a lease of ninety-nine years. A representative stated that plans of a proposed building had already been made by their architect, Mr. Harvey Corbett, of New York, who would act in collaboration with a firm of English architects. Mr. Corbett designed the Bush Terminal Sales Building in 130, West Forty Street, Broadway, New York, a characteristic American "skyscraper." Although the design may be characteristically American, the architect was subject to the restrictions imposed by the London County Council, and the height, in particular, would be restricted to 80 ft. It was hoped to commence early in the spring. Mr. Corbett had left for this country very shortly over his plans, which, we understand, yet to be approved by the directors.

Thus the London County Council scheme of public improvement is complete within sight of completion. Only a little of the land which it remains to be disposed of, and the prospect of this being let without delay. The scheme was adopted by the County Council, on the recommendation of the Improvements Committee, and the new roads, Kingsway and Aldwych, were opened by King Edward on October 18, 1905. Their length is respectively 1,800 ft. and 1,500 ft., their width 100 ft. They made available for buildings an area of fourteen acres, involved an area of property of about eight acres, and dedicated to the public the form of new streets an area of 10 acres. The gross cost was £6,000,000, while the recoupment



ELEVATION AND PLAN OF WOODEN HOUSE APPROVED BY MINISTRY OF HEALTH

posal of building land was estimated at over £4,360,000. The total estimated rents, etc., amounted to £100,000 a year. Although this particular scheme is so recent, the question of better communication between Holles Road, Southampton Row, and the Strand near Somerset House, had been under consideration for over sixty years. The head of the Bush Terminal Company, Mr. Irvin T. Bush, interviewed in connection with the scheme, said it was the intention of the company to devote 80 per cent. of the Interborough Sales Building, as the new structure is called, to the service of English and foreign trade. While the purpose of the Terminal Company was international in the broadest sense, the company wanted English products to predominate in an English building, just as American goods predominate in the Bush Building at New York, and as the French products will chiefly predominate in the building proposed to be built for the sale of French and Latin-American products in which the company intend to erect in London. The plans show three separate buildings, separated by sunken roads and connected by covered passages.

QUIRIES ANSWERED.

Draining Bricks.

The issue of October 15 H. M. writes: "There is a method of draining walls by building in at intervals bricks which drain out the moisture. They are called K or Kay. Could you inform me whom they are made by?" Mr. J. Cornwell, Cornwall, states in reply: "I believe, a foreign invention, information regarding the bricks may be obtained from Messrs. Musgrave and Sons, 24, Queen Street, Cardiff. I have tried them personally, but they are not used to act by thermo-syphonic action."

Educational Appliances.

P. (Manchester) writes: "Can you give me the names and addresses of any firm in England, France, or U.S.A. (1) who make casts, models, diagrams, and educational appliances used in the teaching of architecture and building construction in technical schools? (2) Who supply motion picture films, which could be used in demonstrating practical working trade subjects?" All kinds of educational appliances in connection with the teaching of architecture and building construction may be obtained from Messrs. B. T. Batsford, 94, High Holborn, W.C.1. (2) I have no knowledge of any firm who supply motion picture films for this purpose."

Tennis Courts: Standard Specification for Roads and Sewers.

(Halifax) writes: "(1) Can you give me any information regarding the construction of what are commonly known as 'gravel' tennis courts? Will the present foundation of a tennis court be of any service in the reconstruction? Can you also inform me of any Yorkshire firms who undertake this work? (2) Where can I obtain the Specification for Roads and Sewers mentioned in your issues of September and October 1?"

To construct a brick rubble tennis court ground should be levelled over to a depth of 120 ft. by 50 ft., and thoroughly compacted, then a layer of rough brick

rubble or clinkers 4 in. to 6 in. thick should be laid over the ground, this to be covered with a layer of broken brick rubble to pass through a 2-in. sieve. The top layer to be kiln dust or hard engine ashes about 1½ in. thick, thoroughly rolled and consolidated. The kiln dust can be obtained from any brick-field by arrangement. It is advisable to have gratings for carrying heavy rainfalls, though if properly constructed these are not absolutely necessary. The drains underneath the rubble ought to be filled with rough material to ensure quick passage of water from the court. We know of no firm in Yorkshire that specialises in this class of work. Doubtless it could be undertaken by the average intelligent contractor. (2) Through any bookseller or from H.M. Stationery Office at any of the following addresses: Imperial House, Kingsway, London, W.C.2, and 28, Abingdon Street, London, S.W.1; 37, Peter Street, Manchester; 1, St. Andrew's Crescent, Cardiff; 23, Forth Street, Edinburgh; or from E. Ponsonby, Ltd., 116, Grafton Street, Dublin.

Books on Architecture and Building.

STUDENT writes: "(1) What is the best modern architectural dictionary? (2) What are the best books on architecture and building construction?"

—(1) The best modern architectural dictionary is that by Russell Sturgis, in three volumes, published by Macmillan, in New York. Among the smaller works are *Dictionary of Architectural Terms*, by John Weale; and *Handbook of Technical Terms in Architecture and Building*. (2) It is impossible to say what exactly are the best books on architecture and building construction, but in the respective categories the following are to be recommended: (a) *A History of Architecture*, by Banister Fletcher; and (b) *Building Construction*, by Beresford Pite, F. T. Baggallay, H. D. Searles-Wood, and E. Sprague. These books could be obtained through our own office.

WOOD v. BRICK FOR HOUSES.

Major O. P. Milns, F.R.I.B.A., in a letter to "The Times" on the use of wood for house construction, says:

Houses of wood have been constructed from ancient times in England, and we have many excellent examples still intact that testify their durability. These old examples fall into two types. Both are built of wooden studwork, the one being faced externally with weather-boarding, the other being lathed and plastered.

I have myself before the war constructed cottages in both these ways in districts where one was not hampered by by-laws. No architect will deny that such construction is capable of fit and proper architectural treatment, but I have yet to be convinced that houses of wood built today under present conditions are a sound proposition, either on the grounds of cheapness or as better than a more usual and durable construction.

Under the stress of the housing shortage there is a tendency to hail old ideas of construction which have fallen into disuse as something new, and to grasp at them as the solution of our present troubles. It is true that a swimmer in difficulties will grasp at the most trivial support as a means of salvation, but as a people we are not yet in such extremes that we need grasp at every suggested expedient without carefully examining its intrinsic merits.

Doubtless a house properly built of wood is a warm and comfortable dwelling, and it may be somewhat quicker to build than a corresponding house of brick or stone, but its disadvantages are manifold. A wooden building needs continual upkeep. It will require periodical painting or creosoting, which is an expense that greatly detracts from any original cheapness. The greater risk of fire is reflected in higher insurance rates, and the danger of dry rot, which, if it gains a footing is all-destructive, is no mean one. There are also minor disadvantages, in that timber construction will not stand ill-usage, and forms a harbourage for rats and vermin.

The crux of the whole matter is perhaps one of cost, and at the present high price of timber it is more than doubtful if building in wood holds any advantage over a simple and straightforwardly designed building of brick or stone. It must always be remembered that with timber construction brick or concrete is still necessary for foundations, fire-places, and chimneys, and that in any case the exterior walling and foundations represent less than a third of the cost of a house.

In Norway and America, where immense stocks of timber are at hand, wooden building is the natural result, but apart from other aspects can it be considered national economy to spend our money abroad, to increase importation, and to use shipping in carrying wood for walls until we have fully explored the possibilities of our own resources?

Brick is by far the most serviceable material for walling in our damp climate. It is permanent, upkeep is reduced to a minimum, it is easy to handle, and is capable of receiving expression in any form. Suitable earth for its manufacture is very generally distributed throughout the country. If baked clay were a new discovery it would be hailed as the most magnificent invention of man for the building of walls.

I am confident that the real solution is to exploit and develop the natural building material of the country, be it brick or stone, to the utmost. If half the ingenuity and capital that is expended in devising methods of concrete and wood construction (both intrinsically inferior walling material to brick) were utilised in speeding up and cheapening brick production by the introduction of up-to-date machinery and by the use of scientifically constructed kilns whereby all the heating power of the coal would be turned to account, we should be nearer the solution of a formidable problem.

It is certainly good if the housing difficulty makes us alive to new ideas and better methods, but let us guard against running wildly after every hare that is started without inquiring if its track is in the right direction. Once awake we must realise how our lethargy with regard to sane building in the past has left us a legacy of slums, dreary suburbs, and bad housing. Let us beware that over-hasty methods in the present do not mean that all our work will have to be re-done in the future.

It is only by a steady and energetic policy of building of really suitable material in a simple and fit manner, with a due sense of the value of beauty as well as of material needs, that we shall overcome our troubles and ensure that our efforts will give abiding satisfaction to ourselves, and be approved by future generations.

COST OF LONDON HOUSING SCHEMES.

Mr. Edmund R. Abbott, past-president of the Town Planning Institute, in a letter to "The Times" gives the following actual figures of the contracts for three schemes in a district in the Greater London area:

SCHEME A (22 houses):—	£
Land (2½ acres)	750
Contract for buildings	17,075
Roadway	130
Drainage	880
Architect's and quantity surveyor's fees ..	770
Total	£19,605
Average cost per house	£891
SCHEME B (59 houses):—	£
Land (5 acres)	675
Contract for buildings (including quantity surveyor's charges)	49,848
Roads and sewers	4,443
Architect's fees and clerk of works	1,350
Total	£56,316
Average cost per house	£954
SCHEME C (34 houses):—	£
Land (2½ acres), amount claimed subject to arbitration	900
Contract for buildings and road (including quantity surveyor's charges)	28,974
Sewers	600
Architect's fees and clerk of works	850
Total	£31,324
Average cost per house	£921

All three schemes have been approved by the Ministry. The houses included in Scheme A are in course of erection, and those included in Schemes B and C will be commenced within the next few days.

CORRESPONDENCE.

Architects' and Surveyors' Assistants' Professional Union.

SIRS,—A number of intending members of this Union having written stating that they do not know members to propose and second them for membership, my committee have decided for the time being to dispense with this formality. As many who have not written have perhaps for the same reason given up the idea of sending in their forms, I have been instructed to ask you if you will be good enough to publish this letter, as it is quite impossible otherwise to communicate with them.

CHAS. MCLACHLAN, hon. secretary.

OBITUARY.

Mr. W. J. Renshaw.

Mr. W. J. Renshaw, of Putney, builder and contractor, died recently at the age of sixty-three. During his career he erected many public buildings in London, and during the war carried out extensive contracts for the Government.

Mr. William Bell, F.R.I.B.A.

Mr. William Bell, F.R.I.B.A., who died recently at Whiteley Bay, at the age of seventy-five, had been an architect in the service of the North-Eastern Railway Company for fifty years. Mr. Bell, who retired at the age of seventy, designed many stations, warehouses, and other buildings for the company.

Mr. John Sim.

The death has occurred at Kirkmichael of Mr. John Sim, architect. He was educated at the Madras College, St. Andrews, and started business as an architect in Montrose in 1879. For many years Mr. Sim acted as district valuer to the Inland Revenue Department, and on the outbreak of war was appointed to the staff of the Scottish Command as valuer of buildings requisitioned by the military.

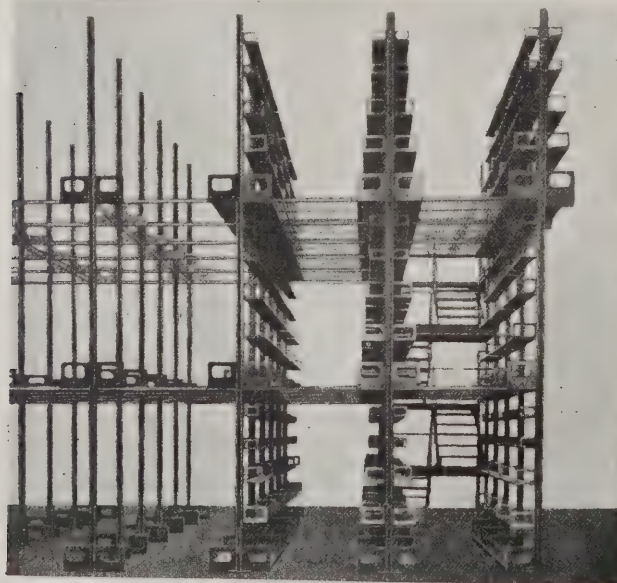
Mr. John Rust.

The death has occurred of Mr. John Rust, of Benholm, who had held the office of city architect at Aberdeen for over twenty-seven years. Mr. Rust was a native of Aberdeen. After having served his apprenticeship as an architect with the late Mr. G. Russel M'Kenzie, Mr. Rust started his professional career on his own account, beginning in an office in Union Street, and latterly conducting business at 224, Union Street. Before entering on the work which fell to him in his official capacity, Mr. Rust had had a large experience of the controversies of municipal life as a member of the Town Council. On the death of the late Mr. William Smith he became a candidate for the post of city architect, and on his appointment in March, 1892, retired from the Council. Besides the bathing station, he was architect for the police office buildings extension, and a number of other improvements. He was also acting in connection with the housing scheme, which is about to be carried out by the municipality at Torry.

STEEL FURNITURE FROM AIRCRAFT FACTORY

The termination of the war has with it an immediate need on the part of the great manufacturing firms—witness the fact that they have so successfully bent their entire resources to the manufacture of war material, considering how best they could convert their plant for commercial ends of a different character. There were instances in which this conversion presented difficulties, as in the case of factories where the machinery required but slight modification to make it capable of producing industrial commodities. In others, where the directors have been obliged to consider the necessity for laying down an entirely new equipment of plant, there are yet others which are so situated that the cessation of war work finds them able to continue work to a great extent as they did during the war, because the community still requires many of the same products. Such, for example, is the case of the Aircraft Manufacturing Company, whose attention is now being largely directed to the output of commercial aircraft. This company, however, has lately entered upon a new field of work, and has adapted part of their war-time machinery to the manufacture of steel furniture and steel library shelving. Previously placed on the market as Adjustable Shelving and Metal Cases of Scrub's Lane, Willesden, whose patented designs have, under the new régime undergone very considerable improvement.

The question of employing steel for bookshelves is one which has attracted increased attention on the part of librarians, who are realising the advantages which their adoption possess—not only regards the reduction of fire hazard to a minimum, but on account of the considerable saving of space resulting from the compact installation. Of almost equal importance, too, are their great durability and the negligible cost of maintenance. Among the recent estimates submitted by the Aircraft Manufacturing Company was one for the installation of floors of double-sided adjustable shelving on their inter-flooring system, to accommodate one hundred thousand books.



The Shelving in skeleton form before leaving the Works.



Shelving in use on intermediate floor of a Library.

ADJUSTABLE STEEL SHELVING FOR LIBRARY INSTALLATIONS.

DEVELOPMENT AND HOUSING.

Dover.

Corporation propose to erect houses and rebuild the slum areas of

Pontefract.

Pontefract Town Council have commenced work upon their housing scheme, and contemplate the erection of 102 houses on a site adjoining the Barracks.

Ruislip and Eastcote.

The erection of fifty-nine houses in Ruislip village, the Council have accepted for £49,848; thirty-four houses at Eastcote will cost £28,974.

Lanarkshire.

Lanarkshire County Council have approved a loan of £60,000 for the erection of houses for members of the constabulary.

East Kent.

It is proposed to build a town, with accommodation for 30,000 to 50,000 people, in East Kent, in connection with the development of the area.

Skegness.

Skagby Urban District Council have approved the immediate erection of fifty houses. They have also approved the erection of a new picture theatre, to be situated on the Pleasure Grounds.

Beckenham.

The Ministry of Health have sanctioned a loan of £100,000 in respect of the erection of houses in Beckenham. The Council have received sanction to erect houses for £9,435 for the purchase of land at the End site.

Glasgow.

Glasgow Town Council's Special Committee on Housing has approved a draft scheme to be submitted to the Scottish Housing Board for the erection of 57,000 houses, including 500 temporary wooden houses.

Crewe.

Crewe Town Council estimate that 750 houses are required. Allotment areas are surrendering allotments for sites, and the London and North-Western Railway Company are offering to build huts as temporary habitations.

Nottingham.

Nottingham Corporation have demarcated for the consideration of the Ministry of Health a project to build 67 acres of slum property and to build 60 new houses. The cost of the scheme is estimated at £4,000,000.

Barking.

For the purchase of 3,000 acres at Barking, for £1,000,000, to be used for the development of a mixed residential estate has been approved by the London County Council. The estate is roughly a square with Ilford, Barking, Romford, and Havering at the corners.

Birmingham.

Birmingham Corporation have commenced the erection of houses on the new site. The scheme provides for the erection of eighty-one modern houses. The houses will include three bedrooms, a bathroom, a living-room 18 ft. by 12 ft. and a scullery and a parlour.

Smallthorne.

Smallthorne Urban District Council Committee have resolved that a housing scheme, under the Housing Act, 1919, be prepared and submitted to the Ministry of Health. The Committee have decided to appoint Mr. W. A. Baynes,

C.E., L.R.I.B.A., of Uttoxeter, as architect (in conjunction with the surveyor), in respect of the preparation and completion of all schemes projected or carried through by the Council.

Croydon.

A garden village, with 500 homesteads, to be occupied by ex-service men and their families, is the war memorial scheme which the Surrey Land Settlement Committee is about to place before the Croydon Borough Council. It is proposed to buy 800 acres close to the town, and build six or eight-roomed houses on 20-rod plots.

Newport.

A Chepstow firm of building contractors having withdrawn from the contract to erect a hundred houses for £98,377, the Newport (Mon.) Corporation has now accepted the tender of another firm to build the houses for £1,000 each, exclusive of the cost of land, roads, and sewers.

Hatfield.

A company is being formed to have an initial share capital of £150,000, divided into 150,000 shares of £1 each, to build a new self-dependent industrial town, twenty-one miles from London, on the Great Northern Railway between Welwyn and Hatfield. Houses to accommodate from 40,000 to 50,000 will be built, and factory sites will be provided. Experiments in co-operative housekeeping, central heating, etc., will be encouraged. Dr. Addison has promised to assist in any practicable way.

THE WEEK'S NEWS.

Enfield War Memorial.

A small replica of the Whitehall Cenotaph has been erected at Enfield.

Wivenhoe War Memorial.

A chapel is to be built in Wivenhoe (Essex) Cemetery as a war memorial.

Renovation of the Mansion House.

At a cost of £800 the Mansion House, London, will be renovated for the new Lord Mayor.

Isle of Wight War Memorial.

A church hall has been erected at Bembridge, Isle of Wight, as a memorial to local men killed in the war.

Architect's Change of Address.

Mr. Gordon Allen, F.R.I.B.A., architect, has moved his offices to 435, Strand, W.C.2. Telephone: Gerrard 3781.

Wayside Cross as War Memorial.

A wayside cross, in grey stone, 16 ft. high, has been erected at Moccas, near Hereford, as a war memorial.

Sewerage Works Extension at Pontefract.

The Pontefract Town Council have accepted a tender for an extension of the sewerage works at a cost of £31,597.

Coventry War Memorial.

Coventry's War Memorial, which takes the form of a cenotaph designed by a local soldier, has been unveiled by the Mayor.

Memorial Obelisk for Euston Station.

The London and North-Western Railway Company are proposing to erect an obelisk at Euston Station as a memorial to their employees who fell in the war.

Royal Institute of British Architects.

The opening meeting of the Session 1919-1920—the first since the signing of peace—will take place on Tuesday, November 4, 1919, at 8.30 p.m., in the galleries of the Royal Institute. The new president, Mr. John W. Simpson, will

deliver his inaugural address on the subject of "The Architect and his Work." A vote of thanks for the address will be moved by the American Ambassador, and seconded by Sir Aston Webb, President of the Royal Academy.

Resumption of Practice.

Mr. L. K. Hett, A.R.I.B.A., having been demobilised after service with the forces abroad, has resumed practice as an architect, his offices being at 13-14, Great Castle Street, Oxford Circus, London, W.1.

Scientific and Industrial Research.

Sir Henry Alexander Miers, D.Sc., F.R.S., vice-chancellor of the University of Manchester, has been appointed a member of the Advisory Council to the Committee of the Privy Council for Scientific and Industrial Research.

New South American Cement Factory.

A large Portland cement factory has been erected at Sierras Bayas, 328 kiloms. south of Buenos Aires. The factory, which has been erected on the site of an old one, contains all the latest mechanical devices, one innovation being the utilisation of furnace gases for the production of electric power.

The Purchase of Maltby Hall.

The Parish Council of Maltby, near Rotherham, have agreed to support a scheme favoured by the county authorities for the purchase of Maltby Hall and forty-five acres of land for £5,750. The hall is to be used as a hospital and maternity centre, and part of the land will be available for housing. A site will be provided for a new higher standard school.

City Church in Danger.

An appeal is being made for £5,000 to save the church of St. Mary Abchurch from ruin. It is one of Wren's masterpieces, and has a ceiling painted by Thornhill and much rich carving by Grinling Gibbons. The timbers on which the dome rests are worm-eaten and may collapse. About £1,000 is already available for the restoration.

Federation of British Industries.

Anglo-Brazilian Edition.

The Federation of British Industries has just issued an Anglo-American Bulletin, tastefully and artistically prepared, and printed in the dual language. Amongst the outstanding features are articles on the Industrial Grouping of British Industries; and the Brazilian Delegates Tour of Industrial Britain. There are also some charming sketches and photographs.

Modernising an Early Nineteenth-century House.

In our issue No. 1293, page 480, we incorrectly stated that Messrs. G. Ll. Morris and H. W. Parnacott were the architects in connection with the adaptation of No. 36, Belgrave Square, London, to modern requirements. Messrs. Morris and Parnacott were the authors of the article which was published, on page 483, and which gave an account of the manner in which the house was modernised, but they were not the architects for the work.

Milngavie Housing Appointment.

Mr. Frank A. B. Preston, F.S.A.(Scot.), of Shawlands, Glasgow, has been appointed burgh surveyor, master of work, etc., of the burgh of Milngavie, and has also received the appointment of clerk of works under the Town Council housing scheme. Mr. Preston served his apprenticeship under the late Mr. David Barclay, F.R.I.B.A. (H. and D. Barclay), of Glasgow, and was for a number of years an

architect with the Govan Parish School Board. During the construction of H.M. Factory, Gretna, he was chief draughtsman, and subsequently chief buyer to Messrs. P. and W. Anderson, Ltd. On the completion of his work at Gretna he joined the Navy and served as a lieutenant in the R.N.V.R.

North-Western Building Trades: Scale of Wages.

A settlement of the North-Western Building Trades' operatives' claim for a wage advance was arrived at by the National Conciliation Board at Manchester. The settlement is arranged according to a system of grading already in operation in the N.W. counties and works out as follows: Grade A towns, 1s. 10d. per hour from October 31, 1s. 11d. from January 3, 2s. from May 1. Grade B, 1s. 9d., 1s. 9½d., 1s. 10½d. Grade C, 1s. 7d. from October 31, 1s. 8d. from May 1. Grade D, 1s. 6d. from October 31, 1s. 7d. from May 1. There is a proportionate increase for labourers. The settlement is to remain in force from October 31.

Leeds School of Art.

Six lectures on town-planning are being given at the Department of Architecture of the Leeds School of Art by Professor P. Abercrombie, M.A., Professor of Civic Design, University of Liverpool, with a view to introducing a school of Civic Design. An introductory lecture was given by Mr. Raymond Unwin, F.R.I.B.A., of the Ministry of Health.

L.C.C. and Museum Drawings.

The London County Council offers three prizes, one of £10 and two of £5 each, for drawings of buildings or artistic objects in museums (South Kensington Museum and the British Museum especially). Candidates must be resident within the County of London, and must be either (1) students in schools of art or technical institutes which are maintained or aided by the Council, or (2) holders of the Council's full-time art scholarships. Works submitted must have been executed since Easter, 1919, and must not previously have been utilised for any competition. Drawings must be delivered before November 8, 1919, together with the application form (T.2-251). Application forms may be obtained from R. Blair, Education Officer, L.C.C. Education Offices, Victoria Embankment, W.C.2.

COMPETITIONS OPEN.

November 15.—Prestatyn: War Memorial.

The Prestatyn Parochial War Memorial Committee invite tenders and designs for a monument in Portland stone, to be erected in the churchyard, the cost not to exceed £750. Mr. G. O. Williams, hon. secretary, Gwynnys, Prestatyn.

(For other competitions open see our last week's issue.)

The Committee of the High Wycombe Hospital have received and adopted the report of the assessor, Mr. W. A. Pite, F.R.I.B.A., who has awarded the first premium of £50 to Messrs. G. Horace Cubitt, A.R.I.B.A., and Wallace Marchmont, Licentiate R.I.B.A., of Staple Inn, and the second premium of £25 to Mr. Arthur Kenyon, A.R.I.B.A., of Russell Road, Kensington. Seven sets of designs were received, which will shortly be placed on exhibition.

WEEKLY HOUSING REPORT.

The return of housing progress issued weekly by the Ministry of Health states:

The number of new site schemes submitted to the Ministry during the week ended October 18 was 194, bringing the total number of schemes submitted to 5,460, comprising about 47,250 acres. The total number of schemes approved is 1,950, comprising about 21,850 acres. House-plan schemes, representing 1,522 houses, were submitted, and schemes representing 1,203 houses were approved during the week. The total number of houses represented in the schemes submitted is 41,023, and in the schemes approved is 27,486. Negotiations on behalf of local authorities for the purchase of sites for housing were successfully completed by the Valuation Department of the Inland Revenue up to the end of September in 841 cases. The total amount asked for these sites or provisionally agreed by the local authorities to be paid was £1,366,749. The total finally agreed by the Valuation Department to be paid was £1,036,852, showing a saving of £329,897, or 23.8 per cent. The figures worked out per acre are: Asked or provisionally agreed to by the local authorities, £245; agreed to by the Valuation Department, £186; saving effected, £59. The average cost of the non-parlour type of house, for which tenders have been approved by the Ministry, is £647, and for the parlour type £768. The average cost per house of all types is £704. The average cost of land for housing schemes of local authorities is £186 an acre; it varies between £212 in the county boroughs and £119 in rural districts.

Details of local authorities' schemes dealt with during the week are as follows:

Building Sites.

Schemes Submitted.—The number received, from sixty-seven local authorities, was 192, comprising about 820 acres, and bringing the total number of schemes promoted by local authorities to 5,391, covering approximately 43,900 acres.

Schemes Approved.—The number of schemes approved was 106, bringing the total number approved to 1,917, comprising about 21,000 acres.

Lay-Outs.

Schemes Submitted.—Forty-six schemes were submitted by thirty-six local authorities, bringing the total number of schemes submitted to 1,100.

Schemes Approved.—Thirty-three schemes, promoted by twenty-one local authorities, were approved, bringing the total number of schemes approved to 500.

House Plans.

Schemes Submitted.—Thirty-nine full schemes and three part schemes, representing 1,516 houses, were submitted. The total number of schemes submitted represented 36,356 houses.

Schemes Approved.—Twenty-four full schemes and three part schemes were approved, bringing the total number of schemes approved to 461, representing 26,637 houses.

Conversion of Temporary Buildings.

Up to October 18, thirty-five local authorities had applied for permission to provide housing accommodation by the conversion of temporary buildings. Conversion has commenced on seventy-two huts, providing 231 tenements; 140 tenements are occupied or ready to be occupied.

TRADE AND CRAFTS

Richmond Gas Stove and Meter Co., Ltd.

The Richmond Gas Stove and Meter Co., Ltd., have removed to new premises at 164-172, Queen Victoria Street, E.C.4, where all communications now be sent. The telegraphic address of the company remains as at present "apparatus, Cent., London," but the telephone number has been altered to 7450 (three lines).

Lighting for Protection.

Testimony to the value of floodlighting for protective purposes was provided during the recent strike by the use of projectors at Lots Road Power Station. These projectors are mounted on stands and can be swivelled both horizontally and vertically. Each projector is equipped with a 1,000-watt Mazda type lamp. It was found that three watchmen, each having under control a B.T.H. floodlight projector, could maintain close observation of a danger zone—that is to say, the area in which interruption was likely to occur. The slightest movement could be detected at a distance of 300 ft. or 400 ft., and have been impossible for any unattended person to have appreciated the power station unobserved. Projectors, in case of emergency, can be installed by the provision of leads to the nearest available source of energy. British Thomson-Houston Co., Ltd., 77, Upper Thames Street, who manufacture and supply the projectors and will be pleased to give to interested parties full information in regard to the characteristics and varied applications of flood lighting.

Doric Reinforced Concrete Construction.

A pair of semi-detached artisan cottages, which have been erected on the system of reinforced concrete construction at Preston Park, Brighton, for exhibition purposes, are open to thorough inspection of architects and interested in housing and construction schemes. In the design of the cottages no attempt has been made to conceal architectural embellishment. The system is claimed by the manufacturer, the Modern Building Co., of Brighton, to be equally adapted to larger buildings and of any characteristic architectural style and design. In the "Doric" system of construction the walls are of monolithic reinforced solid concrete and are composed of four integral parts. The first is the exterior plane of the wall composed of "Doric" building blocks manufactured by a special process consisting of Portland cement and asbestos fibre, reinforced with netting and waterproofed with a special bituminous proofing composition; the face is finished with rough cast which can be coloured or washed as desired. This "Doric" facing is bonded with and forms an integral part of the wall itself, and is claimed to form a barrier to all moisture from penetrating into the wall, it protects the wall from the disintegrating action of frost and other atmospheric influences. The interior face is finished with "Doric" asbestos-cement sheets, the cavity filled with concrete reinforced with the "Doric" system of vertical and horizontal reinforcements of special prongs. To these internal wall reinforcements are secured the floor joists; thus a system of tying and bonding the walls is established throughout the entire building. Buildings are additionally strengthened with concrete key piers.

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THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS

With which is incorporated "The Builders' Journal."

UNIVERSITY OF MICHIGAN



COMPOSITIONS BY BOUCHET (I.).



Photo: C. L. Gill, F.R.I.B.A.

ENTRANCE TO BIBLIOTHÈQUE NATIONALE, PARIS. J. L. PASCAL, ARCHITECT.

THE ARCHITECTS' JOURNAL

Architectural Editor: Professor A. E. RICHARDSON, F.R.I.B.A. Literary Editor: J. FINDLAY McRAE.
Organising Editor: G. J. HOWLING. Assistant Editor: EVERARD R. H. READ.

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Space Composition

BERNHARD BERENSON, an art critic who has devoted a considerable amount of attention to the painting and architecture of the Italian Renaissance, has formulated a theory which his studies suggested, discussing it under the title of "Space Composition." According to this theory the painters of the period were first and foremost "composers," and all other qualities were of secondary moment. In a picture, he assumes, it is the space that dominates the whole, and it is only that such figures as may be introduced do no more than not disturb this feeling." In his definition a picture as "a cubic content of space."

In architecture, again, as he considers it, "encloses the space," to which the structure is but an appendage, and to give full effect to this conception, he claims that the plan must be a Greek cross, whereby the enclosed space can be best considered in its unity. In the plan, he claims, the Renaissance architect had in his mind, and it was only by the irony of fate in the instance of St. Peter's, that this was not

the functions of space are both constructive and decorative, and the latter function may possibly be the more of that compelling power which "identifies" the space to come under its spell with the soul of the artist," as Mr. Berenson tells us it does. In its artistic capacity, and as it appeals to the eye, the space operates in the composition of a picture, and in architecture it is involved in the occurrence of architectural ornament. As it appeals to the ear, it is the space of a note and the interval between the notes of a musical composition. The unfolding of architectural and human action in time, now in tumultuous motion, now in pause, yield drama. Regarded artistically, the mystery suggested by distance or depth in a pictorial composition, by the sense of vastness in architecture, by duration of time in the drama, is when the watchman on the tower beholds the fires upleap that tell of Troy's fall after ten years of waiting—these all tend to heighten the value of the impression sought to be produced. Surely Mr. Berenson has carried the matter too far when he gives such functions not only first place, but the only place, and an attempt to substantiate his theory by a fallacious argument, however ingenious, cannot help to convince us. He endeavours to separate space from its collaborators by driving a wedge between the kind of impression it produces in the nervous system, and that produced by the other qualities that interest us. Space composition, he told, "producing as it does its immediate effect (how and why cannot here be discussed) on the motor system with every change of space, we have the instant a change in our circulation and our vitality, a change which we become aware of as a heightened and lowered vitality." This is

all very impressive, the more so since the reader is likely to have some difficulty in following him. But a physiologist would tell us that nothing of the kind takes place, "though how and why need not here be discussed."

Had the author something more tangible for argument, had he come nearer home and got into touch with the more self-conscious expression of modern art, he might have got nearer to, though he would still have failed to realise, his definite objective. Robert Adam, for instance, with his "vistas," his "movement," "the rise and fall, the advance and recess, with other diversities of form," "the effects that hill and dale, foreground and distance swelling and sinking have in a landscape," shows that space treatment had in a somewhat figurative way, got a hold on him. And there are not a few modern painters who have affected a large and empty canvas as a foil to the point at which they seek to concentrate interest. If we can go no further, it is quite true to say that both the painters and the architects of the Renaissance were very much alive to the value of spaciousness as a quality. The painters were masters of aerial perspective, "clear, calm, placid, perpetual vision far and near, endless perspicacity of space, unfatigued veracity of eternal light"—this is what a critic saw in their art before Mr. Berenson. And in the central plan of a Greek cross the architects had unquestionably provided themselves with a means of giving an effect of spaciousness to their buildings. But it was not theirs alone; in the Byzantine church, and wherever the central plan in contradistinction to the basilican is adopted, the same quality will manifest itself. It is even predominant in the great French Gothic cathedral plans which contrast with those that more closely followed basilican development, where the transepts would seem to have been added to provide official accommodation previous to any extension eastwards and to have had little organic connection with the basilican plan from which they were separated by the triumphal arch.

But central planning, as it may be termed, cannot claim a monopoly in the production of space effect, though readily lending itself to it. One would rather say that it is the accompaniment of all good planning, with the elimination of wasted space, by which such an effect is inevitably weakened. The simplest dwelling-house may convey this impression. It is the test of the good plan—not the number of cupboards; these will find themselves included in the natural course. The sense of spaciousness depends neither on area or volume. Wren's small church of St. Stephen's, Walbrook, a masterpiece in space production, is evidence of that. It is simply an achievement in planning.

The excellence of the plan, it may further be noted, is not alone an end in itself. It controls the whole design. It is the foundation upon which the building rests. It suggests, if it does not dictate, "the rise and fall, the advance and recess" that Robert Adam so much

admired—in lesser language, the perspective effects of the composition. It may be doubted if an eye for these perspective effects can be alone cultivated by the study of purely linear methods. These perspective effects depend on other considerations than vanishing points. They include atmosphere and colour, “unfatigued veracity of eternal light.” The arts of the Renaissance were in many ways more interdependent than they are to-day. The architect was infrequently not a painter and a sculptor also. It is at least not extraordinary to claim that the effects of composition obtained by the painter may be of assistance to the architect. It is true that amongst the Italian painters

representations of architecture considered in relation to light and colour and distance may especially be found, and these cannot be without their appeal to the architect. But omitting any necessity for architectural expression, the treatment of objects in relation to space may, not without profit, be sought not only among the Italians—and of these especially the Venetians—but also among a long list of painters, including Claude and Turner, who if not architects or cubists in the sense that Mr. B. would have us accept them, have realised how important a contribution the element of space has to the design. C.

Notes and Comments

High Finance and the Builder.

MR. AUSTEN CHAMBERLAIN'S speech in the House of Commons last Wednesday on the financial situation had in it nothing more welcome than its specific assurance that “additional taxation is not necessary unless the House imposes additional charges on the Exchequer, or unless the House desires a more rapid reduction of the National Debt. “I submit,” he said, at a later stage of his speech, “to the House as a considered opinion of the Government, that there is no such financial crisis or financial emergency as requires us to impose that unrest and uncertainty which the introduction of new taxation would involve, and we do not propose to do it.” Also it was a huge relief to be told explicitly that, “As far as I am concerned a general capital levy is out of the question, and I believe that in that matter I speak the general mind of the Government.” There is, however, an important proviso—that profits made out of the war may be subjected to a levy if they can be ascertained. That they cannot seems so probable that it would be rash to base any sort of expectation on the positive issue. Labour is keen on a levy on capital, and on confiscating all war profits, but the net effect of the speech by their leader, Mr. Adamson, was to impress the hearer with the ability of Labour speakers generally to utter solemn nonsense in good set terms. Why the Labour Party should so persistently seek to destroy capital is a perplexing problem; and the Labour man who is so industriously sawing the branch on which he is precariously perched, seems oblivious that if ever it comes down through the effort he must inevitably fall with it. No sane Government would dream of making a levy on capital, every halfpenny of which is needed more sorely than ever it was—for the rehabilitation of the nation's trade and industry. It is strange that Labour does not seem to realise that capital absorbed by the Government may be mostly written off as non-productive, whilst that successfully employed in industry multiplies continually its powers of doing good. Labour shuts its eyes to the elementary truism that to exhaust capital is to destroy industry, and hence to ruin the nation's chance of holding its own in the world-wide struggle for existence. Labour, in fact, confuses capital with capitalism, just as employers sometimes confound trade unions with trade unionism; the -ism being in each case the maggot in the apple. Luckily the Chancellor of the Exchequer has had the courage to speak out quite candidly and emphatically on the utter folly of confiscating capital at the very moment when the need for its remunerative investment is greatest, and when, moreover, the knowledge that a great part of it would be snatched away to feed the hungry maw of a wasteful Government, would cause a fatal slackening of energy, invention, and enterprise. Of all men, builders are the least likely to find fault with the Chancellor's decision that there is to be no levy on capital, for the very simple reason that its immediate effect would be to curtail

building to the last limit. Business of which the buildings were subject to confiscation of a large portion of any portion in excess of present heavy enough taxation, would certainly require no great extension of premises; and the capitalist, whose profits were in any considerable measure forfeit to the Crown, would not be able to spend very lavishly on building, equipping, and furnishing his meet abode. A lien on capital would be followed by an immediate curtailment of the arts that in a poverty-stricken atmosphere can wither and shrivel. That the Government is so sure and steadfast in matters of high finance is a source of encouragement to trade and industry, and the Chancellor's speech is a harbinger of prosperity. It will go far towards re-establishing the confidence which is an indispensable condition of successful enterprise.

The New Model Form of Contract.

Repeatedly we have had occasion to deplore the tendency to multiply forms of contract. At least three forms were in preparation—the R.I.B.A., the Society of Architects, and the Institute of Builders having each drawn up a separate document: a deplorable instance of waste of energy through quite unnecessary antagonism, or, to put it less harshly, through failure to agree on certain matters of detail. When the Ministry of Housing required a model form of contract that should be generally applicable to national housing schemes, it got one made, and it adopted the only sensible method of securing a workable document. It called together a committee thoroughly representative of all the interests involved, and these gentlemen are to be warmly congratulated on the production of a document that will form a fair basis for discussion and, we trust, a firm foundation for agreement, between the R.I.B.A., the Society of Architects, and the Institute of Builders. If they reopen negotiations for the production of a new contract that, we trust, will be ultimately deemed acceptable not only by all these organisations, but also by the building-owner, who will be the more easily satisfied if the form is authentic when he is assured that it is the result of the rivalry of his rivals and that it has for its nucleus or its model the form drawn up by representatives of all sections of the building industry at the request of the Government. It is hardly to be said how great a boon a single authentic form of contract would be, in avoiding disputes, in minimising the chances of friction, and, above all, in securing equitable contracts. All concerned in producing an emergency contract that seems to satisfy all the interests are to be heartily congratulated on their achievement, which is all the more remarkable seeing that so many attempts to secure a general form of contract agreeable to all parties had hitherto signally failed. Whether or not it is no doubt true that an emergency form required by the Government should present less difficulty of negotiation than would a form of wider scope and of more permanent character, it is nevertheless very clear that the work done by this special committee is of great value in laying sound foundations on which a good super-

ay ultimately be raised. The details may be subject to certain modifications, but the les now at length established will stand fast. ncere congratulations on their successful work to them, and especially to Mr. Ernest J. Brown, s so ably represented the builders' interest.

Savoy Memories.

mediately after the lamented death of Mr. H. B. comes the announcement that a memorial to Mr. s. Laurence Irving, who went down so heroically e "Empress of Ireland" in 1914, has been made Gilbert Bayes, and is being placed in the Chapel Savoy. No more appropriate place could be for a memorial to the Irvings, who have been in ways associated with the unique old chapel or its ts. In the spring of 1902 Sir Henry Irving un- there a stained-glass window to the memory of y Carte; and some of Mr. H. B. Irving's best was done at the adjacent Savoy Theatre. Nor se modern memorials at all incongruous with the interior, which is, alas! early Victorian, and must wear a very different appearance from that which nted when, in the reign of Charles the Second, of ly pious memory, the chapel was the scene of the ally famous Conference on the Book of Common . Apparently the chapel takes its popular from Peter of Savoy, uncle of the Queen nry III., who presented to Peter the great which then stood on the site since occu- oy the chapel. This palace was built by de Montfort, Earl of Leicester, who laid ndations on which our national Constitution is John of Gaunt, Duke of Lancaster, made great ements to the palace, where he lived in great state, ere Chaucer, Froissart, and Wycliff were his fre- quents. Wat Tyler paid particular attention to ace when he sacked London. He destroyed the g with gunpowder, and flung the fine furniture and late into the Thames. Afterwards Henry VII. d a hospital on the ruins. Many fine old buildings ecincts were swept away to make room for the ches to Waterloo Bridge. An odd item of build- prest should not be omitted. "The chapel," says lter Besant, "was made parochial after the greedy et had destroyed the first church of St. Mary-le- in order to use its materials for his own mansion."

A Factory for Stratford-on-Avon.

ll be remembered that the question of whether or ctory should be erected in Stratford-on-Avon was d to the Charity Commissioners for decision. It ation in which the late W. S. Gilbert would have l; but why should Charity Commissioners be o decide in a matter of town amenity? It is not thrust this responsibility on them. Competent they doubtless are in the affairs with which they ecially appointed to deal, and it happens that one multifarious duties is to grant or to refuse per- for the sale of certain lands. In the exercise of cretion they must, it is true, often have questions nity to consider, but it may be imagined that their ccustomed functions do not call for the qualifica- ssential to a true finding on a question of taste. onfess as much in a passage in their report, in hey say that "the anticipations of a possible loss orld's culture belong to a subject which they have at liberty to admit as material to their decision." rank, but alarming; for it confirms our worst ns—that this highly respectable body must often d upon to pronounce judgment on issues of which ve no competent knowledge. Now, in the case tford, the essential feature is "a possible loss to orld's culture," and the Charity Commissioners assume that it is not material to the issue! In their reasons for approving of the sale of land purpose of erecting a factory on it, the Commis- take into consideration the very question that

they had just ruled out so ostentatiously, for "Is it likely," they ask, "that as a result of the sale Stratford-on-Avon would suffer such disfigurement that its attractions for visitors would be lost? The Commissioners do not think so." Again, "It has been urged by opponents to the sale that even if the proposed works are inoffensive they would be the beginning of a process of industrialisation which would continue until Stratford-on-Avon had become a suburb of Birmingham. The result feared seems to the Commissioners to be remote and hypothetical. It was also feared that the proposed development of the school would be prejudiced. The evidence under these heads is, in the view of the Commissioners, unconvincing, and in their opinion these objections have 'not been made good.'" Their plight is rather pitiful. They feel compelled to pass some sort of opinion on a matter that they have declared to be immaterial to the issue, and on which they seem to feel that their judgment is without value. Surely there should be some qualified tribunal to which such issues could be referred in full confidence that they would be dealt with according to knowledge. Why should not the Institute of Architects, acting in conjunction with the Royal Academy and the Town-planning Institute, be invited to form a panel competent and empowered to deliver a binding verdict on matters within its scope; subject, of course, to appeal. Until we get some such properly qualified tribunal of taste, absurdly weak decisions, such as this finding of the Charity Commissioners on the proposal to build a factory at Stratford, will continue to vex to the soul all who want such matters settled with due decorum, not to say rationally. For, to speak bluntly, the verdict of the Charity Commissioners defies common sense, but is no whit more silly than the necessity of referring such a question to such a body. Let the townsfolk demand that this act of desecration shall not be done, and the evil will be averted.

A Rats and Mice Bill.

A maximum penalty of £5 for harbouring rats being enacted in the Rats and Mice (Destruction) Bill which passed its third reading last Thursday. the ways and means of keeping out these wasteful, destructive, and disease-spreading vermin will necessarily receive very earnest attention. Sir A. Griffith Boscawen, speaking in Committee, stated that the value of the food destroyed or consumed last year by rats was estimated at £40,000,000, which was nearly equal to the amount of the bread subsidy. Obviously, therefore, it is the plain duty of the architect and builder to do what they can to keep out these pests, and the material that offers the best protection is obviously concrete. Although brown or black rats, and even mice, are voracious enough to eat into almost anything—including compo pipes, which they have been known to gnaw through with the object of getting at the water—one can with difficulty imagine a rat-riddled concrete or tiled floor. Either material would, at any rate, offer them much more discouragement than they get from timber, on which they seem to feed: which is a bad look-out for wooden houses. It is, of course, in buildings of the warehouse class, especially those in which edibles are stored, that rats do most damage, and it is precisely to this type of structure that reinforced concrete is most applicable. Not that any guarantee of absolute immunity can possibly be given. Rats can find their way in very cleverly. They have been known to climb up a stack-pipe and come down the chimney; but if all hollow channels behind the skirting, and all the hitherto common voids between ceiling and floor-boarding, be sedulously eliminated, rats and mice will have but a slender chance of stowing themselves away on the premises, in defiance of cat or terrier; and, now that Parliament has marked its sense of the seriousness of the plague, the architect feels more keenly than ever the obligation to adopt every reasonable precaution against it.

Architectural Causerie

IT was in Kingsway, three days ago, that I stood by the hoarding enclosing the Aldwych site, beyond which you may see the north front of Somerset House as drawn on the cover of the Journal. As I stood waiting for a friendly taxi-driver to carry me to Westminster a stranger approached and talked in a cheery manner. Needless to say, he was a New Yorker. "You don't mind me speaking to you," was his opening remark. "I am a stranger to London; in fact, I am an American architect looking around at your old buildings." "This is indeed fortunate," was my reply: "I also take an interest in architecture, and just now I am wondering what kind of building it is that a fellow citizen of yours intends to place on this open site after the weeds have been destroyed." "Gee, you don't say." "I do, and, furthermore, there is a rumour to the effect that this enterprising artist has been studying the noble building opposite, designed by Sir William Chambers, with a view to emulating the character and detail."

* * * *

My acquaintance asked me to enlarge on the fact, which I did, pointing out how difficult it was for London architects to obtain commissions of this nature either in the metropolis or in any of the provincial towns, especially the latter, where opinion favours the employment of local talent. Further, I asked my chance friend, who seemed to be sympathetic, if New Yorkers would countenance a Briton building a replica of the old Town Hall in New York in proximity to the existing building. His reply was emphatic. "There would be some talk before that took place; we just love you English, but we don't want you fooling around with your tarnation boxes of bricks in our land." "Those are my sentiments, exactly; we don't mind you Americans exploiting the very gentlemanly style our great-great-grandfathers took over to America, but when you come back here to set up a rival establishment outside the windows of what was the front of our first Royal Academy we feel tempted to ask Sir Oliver Lodge to communicate forthwith with the shade of the austere Sir William." We exchanged cards, shook hands, and departed, my American friend to the Soane Museum and I to Tothill Street, where I found awaiting my coming a small parcel of books, and directly I opened them the following met my eye:

"Architecture and Literature Compared."

"Sir William Chambers very justly observes that it must not be imagined that buildings considered merely as heaping stone upon stone can be of advantage, or reflect honour either on countries or particular persons. Materials in architecture are like words in phraseology, which, singly, have little or no power, and may be so arranged as to excite contempt; yet, when combined with art, and expressed with energy, they actuate the mind with unbounded sway. A good poet can move even with homely language; and the artful disposition of an able architect will give lustre to the vilest materials, as the feeble efforts of an ignorant pretender must render the most costly enrichments despicable. The progress of other arts depends on that of architecture. When building is encouraged, painting, sculpture, gardening, and all other decorative arts flourish, of course, and these have an influence on manufactures, even on the minutest mechanic productions; for design is of universal advantage, and stamps a value on the most trifling performances; the consequences of which, to a trading people, are too obvious to require illustration." I rather like the flavour of this epistle; it fitted in with my previous chat: but, although I admire the American as an architect and trader, I am not sure that we Londoners will take it as a compliment if he braves the Atlantic, and tries to imitate Somerset House on the Aldwych site. Let him come by all means, but let him bring some modern ideas in his valise.

Speaking of new buildings, it has been my pleasure to run across several well-known figures in the architectural world during the last few days who at the present are giving of their best to promote the comfort and well-being of their fellows. Some writer or other—I believe it was Goethe—describing the profession of the architect, said, "he, 'the architect,' is employed in laying all the luxuriance of his fancy upon halls, from which he is to be for ever excluded, and displays his ingenuity in bestowing the utmost convenience upon apartments which he must not enjoy." I lost no time in quoting the above to Major Barnes the other day, when we met in the Library of the House. Notwithstanding that my appointment with the breezy member for Newcastle had to do with the housing problem, we both paid compliments to the genius of Barry and the charm of Pugin's detail. I was bound to say that not since the days of Sir William Chambers has the profession had its interests held ready for opening in debate; moreover, it is a characteristic of Major Barnes that he is ready to drop political talk and engage upon the merits of the Renaissance for at least ten minutes on end should architects like to send in their cards at St. Stephen's.

* * * *

The Royal Institute of British Architects, under the leadership of Mr. Simpson, has at last returned to its pre-war form. To-day various members of the Council specialise in some particular subject. Mr. Mr. Webb, Mr. Paul Waterhouse, and Professor Pite are spending hours of their valuable time to the needs of educational reform. Lately it was my privilege to meet these gentlemen in committee, and I can pay a tribute to their untiring energy and knowledge. Other members are keeping an eye on the business side of the profession, and all sorts of ideas are being put forward in order to ensure the increased power of the Institute as a body of national importance. This will be of interest to our friends in the provinces.

* * * *

Lunching with Mr. Eberlein, of Philadelphia, last week, I gathered some interesting facts regarding Colonial architecture, particularly that of the seventeenth century and pre-revolutionary period. Mr. Eberlein is a keen antiquary, and lost no time during a recent visit to Cambridge to explore an interesting fifteenth-century discovery recently made, of which more anon, perhaps in the "Architectural Review." Mr. Eberlein promised to deliver a public lecture at the London University early in December, the subject being, "Aspects of Colonial Architecture." I should like to see the profession represented in full strength when the lecture is given.

* * * *

Whenever I pass through Bedford Square I make it my business to pay a call upon my friends at the Association. Mr. Yerbury, the secretary, acted as my cicerone the other day, when I asked to be allowed to spy on the land. Incidentally, I met Messrs. Lowrie and Buckton who have submitted a fine scheme for the improvement of Richmond. Luckily they have promised it to me for illustration. The Association in these days is very strong; in fact, the clatter of the tee-squares evidently reaches the ears of the winged bulls in the British Museum. Doubtless these creatures of stone dread a second Khorsabad being planned. Professor Pite has returned from America, and I hope to have the benefit of his pen very shortly; in the meantime he is actively engaged preparing books.

* * * *

This is a busy world for architects, although the work still soars. Some of my friends keep at their desks till the stroke of midnight. When I called upon Mr. M. Horder last week I found him overwhelmed



GREENWICH HOUSE, NEW YORK CITY. DELANO AND ALDRICH, ARCHITECTS.

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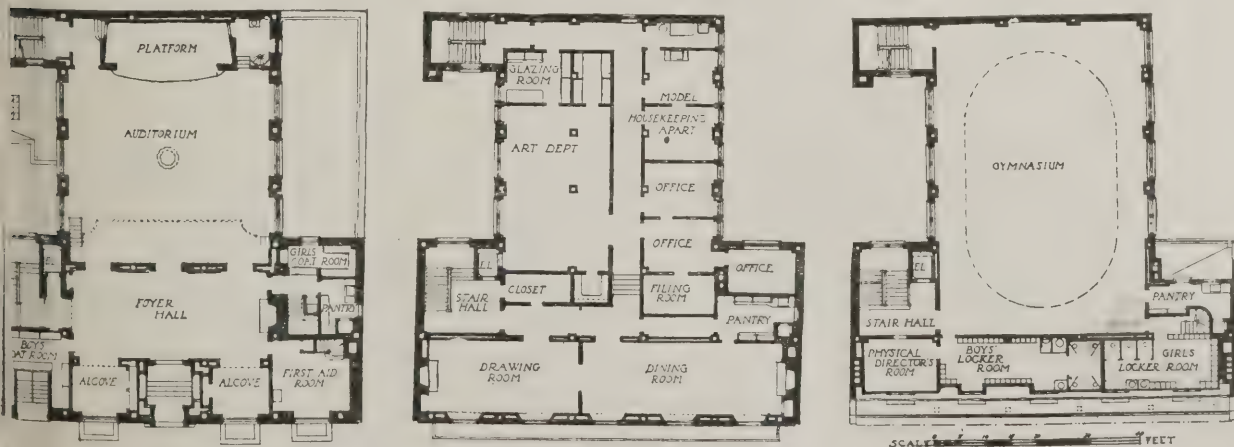
DETAIL OF ENTRANCE.

In Sackville Street Mr. Verity was working he generally does, and, wonder of wonders, of students were consulting the Sibylline Books in Sackville Street as late as eight of the clock. Quite a number of the good days of six years since. What of the future? Vingboom and Abertolli?

...architect who has an understanding of building for the community, every one of the community that can claim to be a citizen of London, has both respect and feelings towards the ancient City. Love of home is a desire for fine things is another, but at heart we have a soft place for the metropolis, whether we see it as a waste of chimneys, with St. Paul's and the great churches overlooking the narrow ways, or

centre our affections upon some section of it, north, east, west, south. The giants Gog and Magog are the tutelary guardians of the City, keepers of the inner mysteries from Temple Bar to Aldgate Pump. My friend Sidney Perks carries information to them should any danger threaten the old streets. Mr. Mervyn Macartney keeps watch and ward over the safety of St. Paul's; a harder task is his than fell to the lot of the goodly fellowship of architects who, prior to his regime, cared for Wren's masterpiece. London to-day is a sort of tapestry upon which we are all working. We cannot alter the design—the London Society has decreed that—but we can patch the moth-eaten parts, perhaps add a new border, and protect the fabric as occasion demands.

I have spoken of the intimate authorities responsible for the keeping of the City. It remains for me to add a word about the guardians of the outer works. When Mr. Riley relinquished his command of the London County Council speculation became general as to the policy of his successor. We need have no fear regarding the ability and determination of Mr. Topham Forest to continue the best traditions of the London he knows so well. Topham Forest arrived at King's Cross from Aberdeen twenty-six years ago with a young man's enthusiasm for the granite walls of his native city. His predilections for the classic led him to the office of McVicar Anderson under whose direction he worked for some years, attending classes at the Architectural Association and sketching and measuring old buildings at every opportunity. Little did the young student imagine in those days that he would become technical expert to the body controlling the mightiest city in the world. This and much more he gave to my ears the other day. Mr. Topham Forest is an architect; moreover, he is a Fellow of the Royal Institute, and that means much. I take it upon myself to say that London will be safe in his hands. He has in view the development of style in the buildings erected under the Council's powers. It is possible we shall see whole streets rebuilt on traditional lines. To the many fine public buildings, such as fire stations and schools, others will be added; new villages or dormitories are being schemed in the Home Counties, on the character of which he is to advise. We are likely to hear more of the Records Department under Mr. Topham Forest's eye, and an extension of the labours carried out by Mr. Dodd and Mr. Dathy Quirke. With the exception of the excellent volumes compiled by the late Sir Laurence Gomme, the public at large has little idea of the scope of this important section. It is to be anticipated that many of the treasures saved from oblivion will shortly become accessible to the profession. It is a good thing for London County to have at the head of affairs a live architect with the real interests of architects at heart.



GREENWICH HOUSE, NEW YORK CITY: GROUND- FIRST- AND FIFTH-FLOOR PLANS.

DELANO AND ALDRICH, ARCHITECTS.

The R.I.B.A. Presidential Address*

By JOHN W. SIMPSON, P.R.I.B.A.

IN all the world's history there has been never an epoch like that to which we are come. Four years of energy and skill have been devoted by the nations to the work of mutual destruction; and now they see, revealed by the light of Peace the precipice of ruin to which their struggles have brought them. Aghast at the imminent danger they turn—still faint and bruised with fighting—to mend the neglected structure of their prosperity, to renew the arrested progress of their social welfare. In these tremendous circumstances I invite your attention to the functions of the architect. Plan—born of the fertile union of reflection, analysing the conditions of the problem with imagination quick to perceive its true solution; construction—daughter of caution, testing the soundness of each audacious artifice. Such faculties, at once quickened and chastened by severe technical training, conduce, as I shall submit, to a type of intellect in the designer of buildings which is a national asset; an instrument to be employed to its very limit at this present time.

What is an architect? There can be no better definition than that given by the dictionary of the Académie Française: "The artist who composes buildings, determines their proportions, distributions, and decorations, directs their execution, and controls the expenditure upon them." First then, foremost, and above all, he is an artist. And by the term artist I understand no more a draughtsman, than I do an actor or a hairdresser, but that which all who honestly practise those professions would wish to be; delighting in their work for its own sake, yet discontented with it because of perpetual endeavour to reach a higher perfection. Not that fitful dilettante who justifies to himself his idle hours with empty phrases—"a lack of inspiration," or the like—but a man with a life's work before him, and the time desperately inadequate in which to do it. A man of remorseless severity in the standard of his own attainment, inasmuch that he shall grudge no expenditure of time and pains to achieve the smallest improvement in his work. One in whose mouth the words "it will do," and "near enough," are not found; nor will he tolerate them in the mouths of those who work with him. With such a temperament, imagination, an eye trained to the appreciation of form and colour, and the rare creative faculty, endowed with all attributes of the artist—he is yet but an imperfect architect. For to the artist must be added the technician to make the architect. Of what avail is his gift of creation, if he have not constructive science that alone shall enable the offspring of his vision to reach maturity? And, what a very mountain range of obstacles now appears between our eager artist and the promised land of his desire. Not seldom, indeed, his heart fails at the steep ascent, and either he turns aside into by-paths which he conceives easier or more direct—or, he becomes fascinated with the very ruggedness of his toil, and remains contentedly constructing, with never a regret for what lies beyond his vision.

The artist, then, must train his unaccustomed feet to tread firmly the slippery planes of geometry; for he is to be able, you must remember, to delineate things, not merely as they exist, but as they are to be. Geometer and—that he may calculate—mathematician, he must still surmount and master the rocky intricacies of the trades. Mason and bricklayer shall he become, and carpenter to boot. The workers in metal must yield to him the secrets of their crafts, nor shall he rest till he has explored the whole mystery of material—rocks, and trees, and the sand which is by the seashore. Something of an engineer he will find himself nowadays, being called to deal with steel as a familiar friend; recognising its great possibilities, and—its limitations. He is but a

poor designer who shall set aside material "inartistic"; rather should he recognise it as his by masterful handling, to imbue them with beauty. Study of hygiene is within his province, for he is nicely studious in arranging all sanitary matters that not merely as to their general disposal. In the detail of pipe, trap, joint, or fitting unworthy attention, he must narrowly supervise each with the which is born of knowledge. Upon climate, rainfall, sub-soils, and all matters pertaining to the health, he will be required to advise; and to plan the defences against those insidious, persistent enemies, humanity, sickness, and disease. Armed, then, with a panoply of attainments, and the vigorous command proper for their exercise, yet another gift is needed for his full equipment.

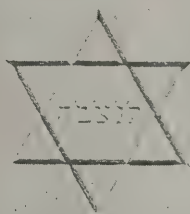
The very weight of his intellectual armour may be a disadvantage and undoing, if it be not supported by a solid sense of proportion—those powers of induction and deductive reasoning—which go to make what is commonly called "business ability." And here we turn upon our architect in an aspect quite different from in which we have hitherto viewed him. An aspect which perhaps most of all differentiates him from his brethren who take the arts for their trade. For, in his position who is entrusted with an important part of architecture, and how his conditions vary from those of the painter or the sculptor. These last produce their agree terms of its purchase, and there's an end of the transaction! A mere matter of interchange of money and finance is concerned. But the architect, from the moment the building contract is signed, is invested with the discretion of an almost unfettered trustee; sums of money are at his disposition, and are controlled by his direction. None can tell, till such time as the work is completed and the cost reckoned, whether he has wisely and honestly acquitted himself of his stewardship, and obtained full value for the money entrusted to him. A trustee, did I say? Nay, a very judge. As the employer lays down his gold, the builder bestows freely his work at the word of the architect, neither doubting but that justice shall be done to them. When I think of the unlimited trust and confidence which are placed in us day by day, year by year by men of opposing interests, strangers, more than the most part, who know us not at all in private life when I think, too, that among both small and great, and low, that trust and that confidence are justly placed, I profess I am proud of my calling. Mistakes are no doubt, "to err is human"; I have known no unpardonable oversight—but (I speak of the architect rightly bear the title) who ever heard of a mistake by an architect?

To prolong the list would weary you. I could list the necessary knowledge of accounts; familiarity with the law, as it affects the drawing of contracts, the rights of dominant and servient tenements, the complexities of Building Acts and all like mysteries; of the need that he should be able to express his views with clarity and terseness, whether in writing or in speech; of the architect as the "public writer," dealing daily with the correspondence of a bishop. You will say—I fear—that my sketch of a "complete architect" is but a fancy portrait, that the accomplishments cannot crowd into the few years of working life. My picture, it may be, is exactly the none of us, as we are—I freely disclaim its likeness to any author—but it may stand for all of us—as we will be this of the workman as it may be. What of the architect? It will not have escaped you that, although the architect stands foremost in the making of an architect, he has described in greater detail his faculties of construction.

* Delivered at the R.I.B.A., on Tuesday, November 4.



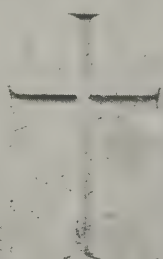
SECOND LIEUTENANT
D.H. KRAUSS
STAFFORDSHIRE REGT.
7th APRIL 1917



TO LIVE IN HEARTS
WE LEAVE BEHIND
IS NOT TO DIE



A 585 RIFLEMAN
L. NOAKES
KING'S ROYAL RIFLE CORPS
27th OCTOBER 1915



20604 PRIVATE
J. GELL
ROYAL SCOTS
30th NOVEMBER 1915



5743 PRIVATE
G.W. DUNN
EAST KENT REGIMENT
6th DECEMBER 1915

15065 PRIVATE
ROBERT LONGSTAFF
YORKSHIRE REGIMENT
29th SEPTEMBER 1915



AND IN MEMORY OF TRIMMER
J. McC. LONGSTAFF, M.A.R.
LOST AT SEA 19th MARCH 1918



10946 PRIVATE
H. MOSS
LANCASHIRE FUSILIERS
17th MARCH 1916



1068 GUNNER
W.R. DALE
ROYAL GARRISON ARTILLERY
18th MARCH 1916



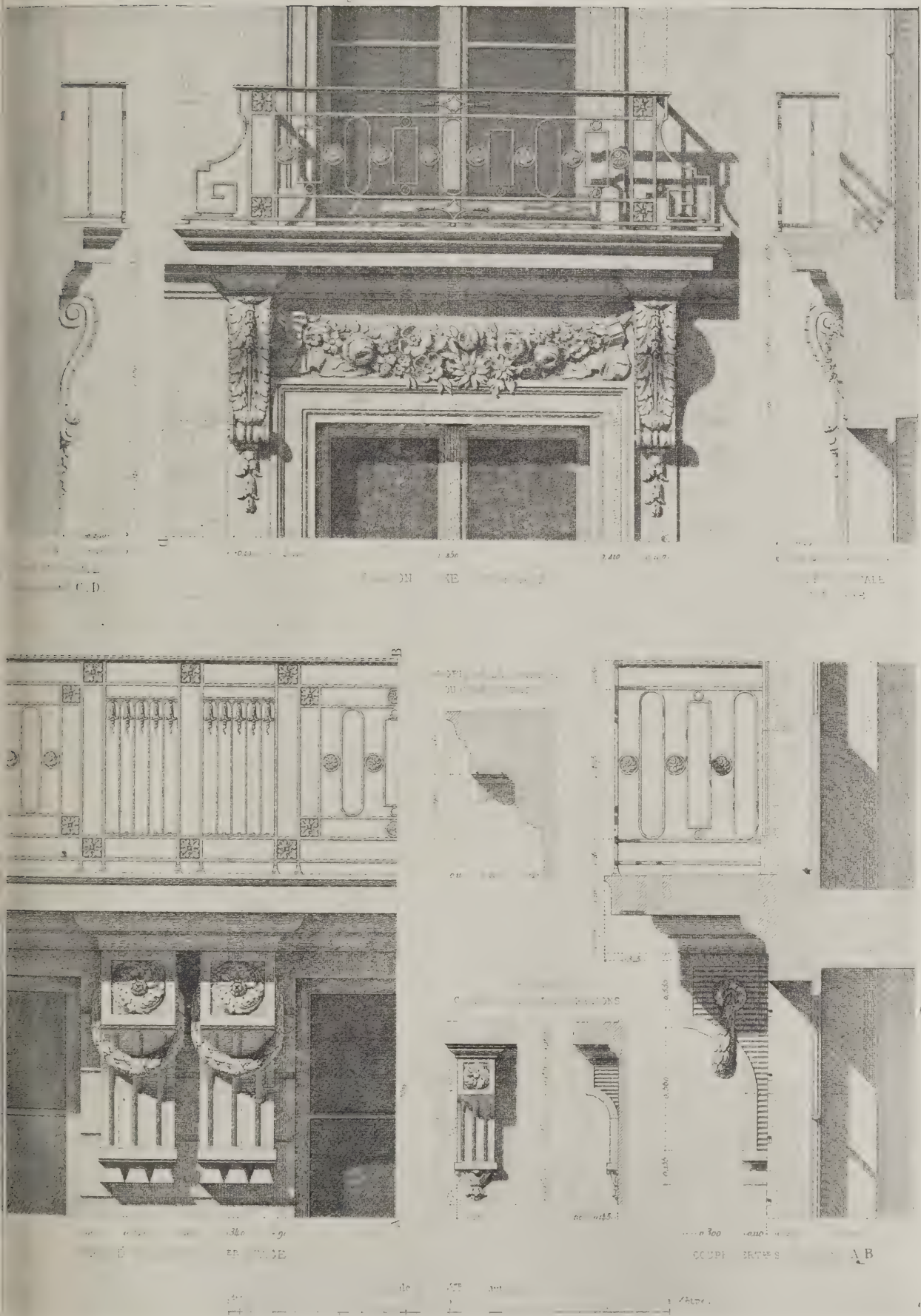
98151 DRIVER
J.A. PEACOCK
ROYAL ENGINEERS
14th FEBRUARY 1916



968 PRIVATE
J. BOOTH
EAST KENT REGIMENT
13th FEBRUARY 1916

TYPICAL HEADSTONES TO BE ERECTED IN WAR CEMETERIES BY THE IMPERIAL
WAR GRAVES COMMISSION.

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DETAILS OF FAÇADE TO NO. 8, QUAI DES ORMES, PARIS (LOUIS XVI. PERIOD).

THE LIBRARY
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ministration. It is with intention that I have or my discourse these less familiar aspects of To cultured minds, the æsthetics of architecture a perennial interest, and, since buildings make the sense of beauty, the emotions they inspire in the measure for their criticism. Yet it is realised how much of the greatness of the art of architecture is due to the severely practical nature of its to the necessity of expressing the artist's ideal of cubic reality. When the enthusiast speaks "frozen music," he is apt to forget that the inspired, and is the very essence of, the music. Architecture is, above all, building; the calculated disposition of proportioned solids and voids—in plans, plan and construction; not the cornices, pilasters, and carvings which define the masses, add emphasis to light and shadow. To create it, no so suggestive sketch suffices; no magic wand, nor potent incantation will raise it from the earth. Patient complex diagrams of geometrical construction, sown with myriad notes and figures, must be placed in unseen foundations, and the arts of cunning fashion couple the roof-beams. For all that I have dwelt upon the material, I must be thought unmindful of the spiritual aspect of building. "Morality, in fact, is architectonic; and architecture, for human nature, is the queen over truth and beauty," I quote from Addington Symonds. "Expectations of me," he adds, "to think that there are no human beings in each nation who receive their permanent tone from the impressions communicated to them by architecture." The importance of architecture as a standard of good design, of logical, of compliance with our domestic and commercial life is very great. I am not now thinking of great buildings. Placed in the hands of competent architects, the Government housing scheme may effect results of more value to the nation than the satisfaction of its physical demands. The clerk and the workman in their way to the morning train, pass by rows of dwelling-places, ill-planned within, monotonously without. "One of these days," thinks our friend, "I will have a house of my own," and in his mind the house he desires shapes itself like to those he daily sees. "What an ideal! Yet how should it be otherwise? The effective education of the public in architecture is the first lesson of good design."

Architecture as a creative art must have a motive. Gaudet, in his *"Cours d'Architecture,"* reveals the basic principle which governs our art in an illuminating way. "The great architect of a period," he says, "is one who is in condition; the technician realises, but does not create, the aspirations of his time." Yet, while it remains architecture reflects, and writes in stone, the spirit of its time, the legend is no mere transcript, but a creation whereby the fertilising suggestion is transfigured, and perfected. Versailles owed its glory to the autocratic splendour of Louis XIV., but it was that created it were those of Mansard, of Le Vau, and of Le Brun. The pageant of Versailles has faded to the Shades; there breathes no wind of life from the phantoms of that splendid Court; alone, the work remains, immortal. To us—as it did to the generations that created it—from the living world, from the past are nigh to us, from the resistless, limitless future for good or ill, the old order is well-nigh gone; the retrospect of our own lives tells of a mighty change, and in the fruition of the new State, architecture must fulfil its glorious part. "Did you, O Whitman, suppose democracy was only a name, for politics, or for a party name?" and, men and women of a country, its æsthetics, its materials and suggestions of personality, and its use in a thousand effective ways." Admitting that the value of art to democracy, its intimate connection with the moral welfare of a people, we cannot but see the attitude of H.M. Government with

regard to the national housing scheme. Despite political reasons for erecting houses with headlong hurry, despite attack by those without knowledge of the prodigious work involved in the preparation of even a moderate-sized scheme (and many are on a scale never before conceived in this or any other country), the Department charged with its administration has steadfastly insisted on standards of sound design and construction. Both the Prime Minister and Dr. Addison have made clear their determination that the land shall not be covered with the abominations of the old-time speculator. Their reward shall be an England of finer instincts, richer for a noble pleasure. Architects—to the surprise of many—are now officially recognised as those most properly fitted to design houses, to plan the lay-out and extension of our cities and towns. We are grateful for that recognition; I do not hesitate to say we are giving of our very best in return.

To those impatient for results, let me say that economy in building is effected, not by the omission of ornamental details—and, indeed, it is but a poor design which needs them—but, by minute study of the plan and construction, upon whose importance I have already insisted. "Plan" means far more than the arrangement of rooms; it comprises the scrutiny of every foot of ground, its contours and subsoil, whereby foundation work is saved; it covers the economical disposition and grading of roads, the aspect of each house-site, the water-supply, lighting, drainage, and—in many cases—reasoned investigation of the general and local social problems incident to the formation of a township. "Construction," too, may be but a small thing in, for example, a cottage roof; but to perfect it, so that wood, slate, lead, and labour may be reduced in each of several hundred cottages, will perhaps need days of work and experiment. And the time lost in preliminary study is regained many fold in the end. To produce in bulk such comparatively simple things as shells needed months of preparation, but, when organisation was complete, they poured forth like water from a pierced dam. So, houses, far more complex constructions than shells, will presently arise as by enchantment: the process has already begun. Like religion, architecture, if it is to profit a nation, must be part of its daily life. It is in plan that lies the true economy—prevention of waste. Waste of time and energy, wandering about the tortuous passages of tube stations, where lifts are planned remote from trains, and fatuous stairs intervene between them and the platforms. Waste of property, in the squalid hinder-parts of main-line stations, untidy sprawling areas dotted with lamentable sheds, and linked by bridges whose building has darkened and desolated streets of houses; waste which defiles and depresses whole communities. I mention "backs," because architecture is matter not only, as is sometimes thought, for fronts, but equally for backs and sides; for all, in short, that connotes orderly, cleanly life, and the beauty of efficiency.

My predecessor in this chair has addressed you in time of war; to me, more fortunate, it is given to take up his arduous duties freed from the obsession of those dreadful days. In opening our first session since the declaration of peace, I welcome and congratulate those members who have served their country and returned in safety. If I do not at this moment dwell upon our losses, it is not that we are unmindful; we do not forget the gallant comrades who once sat with us. The Royal Institute has had its full share of bitterness. War, like architecture, is an art, and is practised "according to plan." Its principles demand the same insistence on a leading motive, the same subordination of the part to the whole; and there is the hazard variant from which skill may make, or folly mar, success. The commander, like the architect, must work within the limitations of his budget, though his expenditure is counted not, alas, in terms of his employer's money, but of his men's lives! Marshal Foch, indeed, pushes the parallel still closer. "The

development of the art of war is like that of the art of architecture. The materials you use for your buildings may change; they may be wood, stone, steel. But the static principles on which your house must be built are permanent." Those who know me will not misunderstand; will not think me less enthusiastic for art, that I have dwelt almost wholly to-night upon plan and construction. Assuredly, I yield to none in my reverence for the sublime qualities of painting, music, sculpture. But, among the fine arts architecture is unique in that it alone subserves utility. By reason of its very limitations—the intimacy of its relation to the needs of humanity, its incessant confrontation with cosmic fact, and the rigorous

severity of its principles—its votaries are comparatively to understand widely, to see quickly and well, to be and tolerant while holding unsullied their own faith. It is more particularly upon these grounds that I have ventured to assert the value of our profession. State. It is not among those callings which bestow wealth on those who practise it. Few architects live upon their earnings; fewer still leave riches at death. Yet no art bestows greater fortune of its own upon those who give themselves wholly to it, and what can money give besides? To us, the immortal words which Carlyle puts in the mouth of the Teufelsdröckh yield their fullest meaning: "Nay, Have," said he, "but what I Do is my Kingdom."

The "Stone and Fagot" Inn, Little Yeldham, Essex

THE "Stone and Fagot," at Little Yeldham, a tiny village in north Essex, near Castle Hedingham, is a small wayside alehouse, built in 1915, to replace an old thatched building destroyed by fire in the spring of that year. The only parts not destroyed were the gate shown on the extreme left of the view on p. 575, and the bakehouse and scullery in the north-east corner which had to be incorporated in the new building. The old house had a frontage a few feet longer to the west, but both the ground floor and upper floor were inconveniently planned.

In the new house it was decided that a tap-room was unnecessary, provided that the public bar was spacious enough for the purposes of both, a not very large requirement for the trade of the house. This—the chief room—has a semi-cellar partly sunk in the ground adjacent on the north side. The only other room required for trade purposes was a small bar-parlour to be available for business transactions and providing a greater privacy than the public bar afforded. Another question to be considered was the convenient placing of the tenant's private living-room, containing a kitchen range, and an alternative plan was designed having a shorter frontage to the south facing the road, showing the living room on the north side, and rather closer to the bar. A disadvantage of this arrangement, apart from the fact that this room could only receive light from the north, was that it entailed the entire rearrangement of a comparatively recent drainage scheme. It was therefore decided to place the living room on the front commanding the roadway at the east end of the building, thus giving all the three chief rooms a south and sunny aspect, and at the same time leave the existing drainage system undisturbed, with the exception of minor additions for the connection of rain-water drains. A slight disadvantage of this plan is that the living room is a few feet further away from the bar than in the abandoned squarer plan, but it was thought that the merits of the long frontage plan outweighed those of the alternative arrangement.

Only three bedrooms were required upstairs, and these are approached by an easy staircase, with a small larder beneath, in the hall to the north of the bar-parlour in the centre of the building. For these three upper rooms a smaller superficial area was necessary, but slightly increased accommodation was obtained by placing the principal bedroom, with a three-light window facing south, in the middle over the bar-parlour and entrance-hall, and by a slight projection carried on two roughly-worked Ancaster stone corbels, which also gave the room a better shape. The second and third bedrooms are at either end, almost entirely in the roof, the light being obtained in each case by a dormer window facing east and west respectively. The extra long slope of the roof at the ends gives these two rooms an adequate but smaller floor space than would have been obtained by carrying round the eaves of the main building at the same level throughout. A good linen-cupboard to be

used as such or for the use of chief bedroom was formed at the head of the stairs, and three glass boards are provided in each of the east-facing bedrooms.

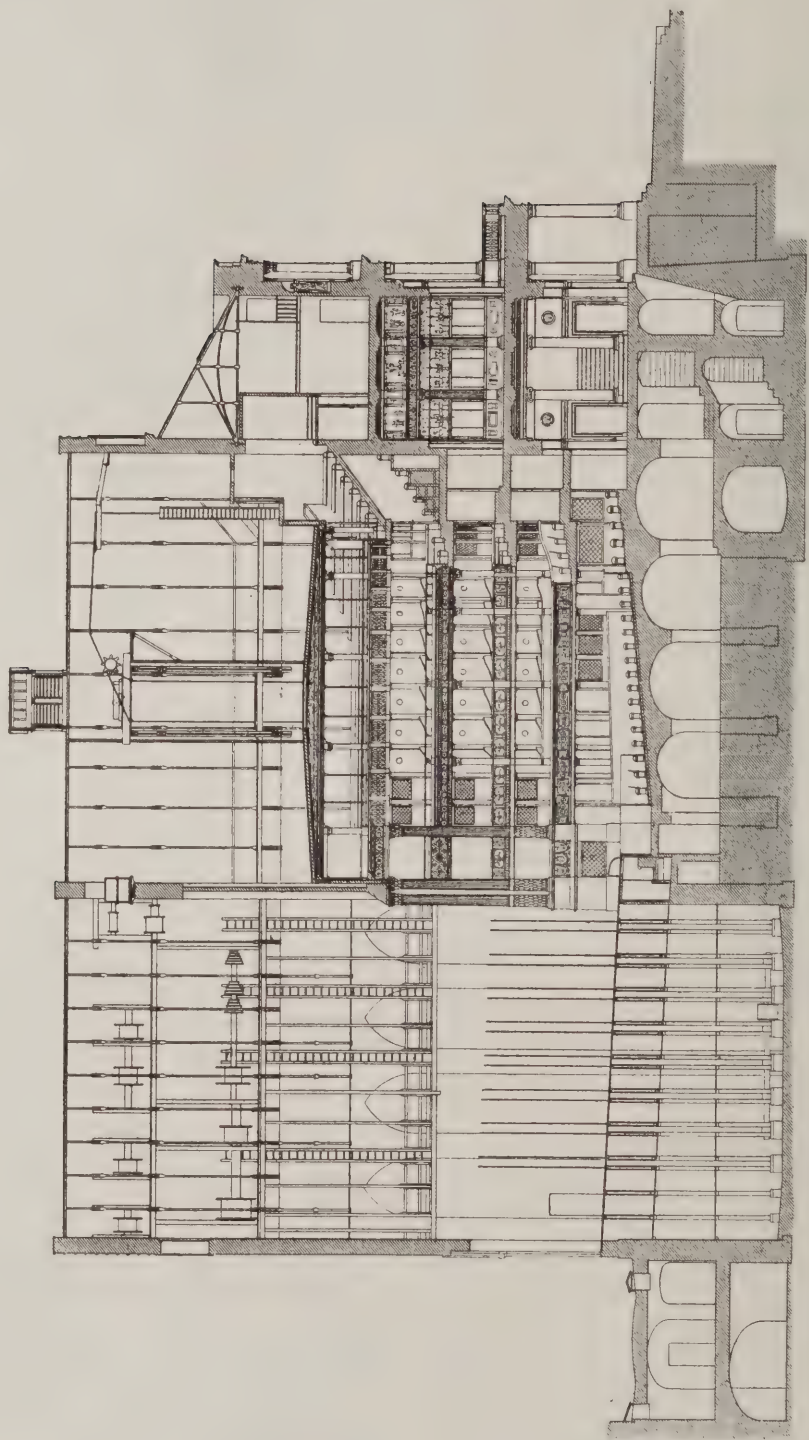
For warmth and dryness all the new fireplaces the inside walls, the six flues being taken up by simple massive chimney-stacks, formed with hand-made, sand-faced, multi-coloured bricks, dull reds predominating. These are built in the same manner with wide flush mortar joints, and with no injunctions for the perpend on no account to be observed. In the eastern stack are four smoke-flues, the ventilating flue from the bar, the difference in the latter chimney being made up by thicker bricks at the ends to balance the eastern stack. The hand-made, sand-faced tiles made in the neighbourhood of Gestingthorpe are used as a roof. The hip tiles are of the old-fashioned form, the bonnet tiles, and were specially made. The flat roof was partly suggested by old examples in the neighbourhood.

Advantage was taken of the four small gables at the apex of the hips to insert wire-covered ventilators to secure currents of air through the roof. It was considered to be too risky to thatch the new building on account of its proximity to the roadway, the danger of sparks from occasional passing engines, and owing to the fact that the former building was destroyed by fire of unascertained cause. The outbuildings on the north side have flat roofs with "Vulcanite," surmounted by gravel, the semi-cellar being plaster-ceiled, with a ventilated space between for greater coolness.

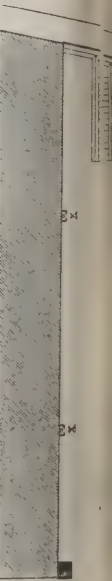
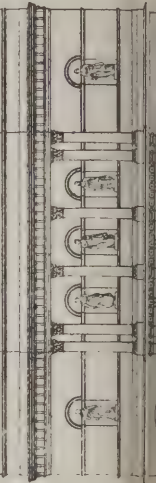
The walls are of 9-in. Fletton bricks, the plastering both internally and externally. Limestone has been used only for the main building, the plaster being scratched with a kind of guilloche pattern in the local traditional manner while the work was wet. A thoroughly dry a thick coat of limewash was applied which serves as a further waterproofing and softens the appearance of the plaster scratching. This was slightly coloured to match the tint of the surrounding cottages, whilst the brick plinth, up to the ground level, has been tarred, also like the neighbouring buildings. The object of the architect was to make the house as little of an intruder as possible and to harmonise with the local architecture. The broken surface of the stucco gives a pleasant appearance to this waterproof covering. Subsequent coats of wash will soften this down still more and in course of time produce the charm of age.

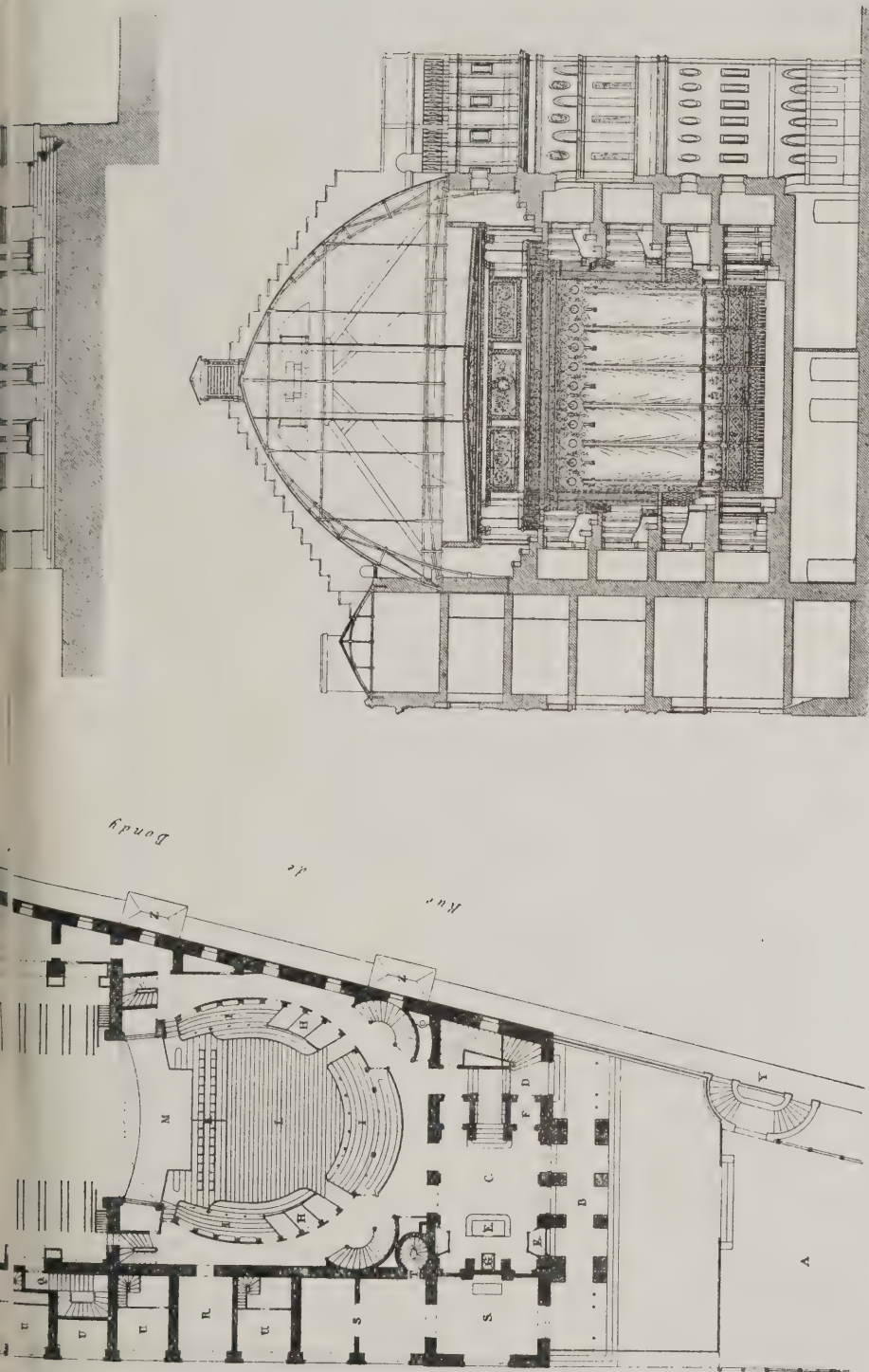
The local cottages are nearly all old and timber framed, built at a time when timber was plentiful in Essex. In the new "Stone and Fagot" the method of brick construction with coke breeze, lintels bridging openings and so forth has been used with the old-fashioned external treatment. The treatment of the public bar has been partly suggested by the French "estaminet," with its short and

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1/2" = 1'-0"





THÉÂTRE DE L'AMBIGU-COMIQUE, PARIS: PLAN, ELEVATION, AND SECTIONS.

HITTORF AND LECOINTE, ARCHITECTS.

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DETAIL OF FIREPLACE.

The floor is formed of thick local elm blocks, resting on steel cantilevers built into the wall with an open space behind and a fixed shoulder-board above, has been provided around the entire room. The woodwork, including the settle by the fireplace, the public bar, is stained with green "Solignum," varnished, except the simple square skirting, which is painted black in the French manner. Up to the

shoulder-boards the plastered dado is painted green to match the "Solignum," and is also varnished. The elm counter-top is left plain. Above the dado the walls are distempered a pale buff colour, and the ceiling is lime-whitened.

Instead of window-boards 6-in. red paving quarries have been used. The only other red in the room is the natural colour of the tiled arch to the fireplace and the tiled hobs. The grate itself, which was designed by the late Philip Webb, is of splayed firebrick, with a movable iron grid in front, so that the fire can be barless or not as occasion demands. Over the counter-recess the flat segmental arch divides the lobby, leading to the yard on the west side, from the serving space, with its access to the cellar behind, as shown in the plan. A small observation window has been formed in the west wall for the dual purpose of seeing "up the road" and for light when the green painted shutters to the south window are closed. A similar small window in the living room was placed in the east wall for the observation of the yard, etc., at that end of the house. In each of the fixed central lights of the three-light windows on the south front is a tiny metal casement, the size of one pane, opening inwards, for ventilation. Externally all the woodwork has been painted, and internally, with the exception of the black-painted skirtings, all the woodwork has been stained. Throughout the ground floor the woodwork has been varnished. No wallpapers have been used, all the walls being distempered in various agreeable hues. The total cost of the work (in 1915) was £672 13s. Mr. Basil Oliver, A.R.I.B.A., of 7, Southampton Street, Bloomsbury Square, London, W.C.1, was the architect, and the builders were Messrs. Mauldon and Sutton, of Sudbury, Suffolk.

Mr. Oliver is to be congratulated on having produced an ideal type of public house. The contrast between his delightful inn and the disgusting type of building that disgraces our city and suburban streets—and, alas! many of our country lanes also—is so striking that the better way has only to be seen to bring home to everybody the necessity for rebuilding on similarly attractive lines all those deplorable "drink palaces," which to-day have so evil an influence on our national life.



"STONE AND FAGOT INN": THE PUBLIC BAR.

The Plates Described

Greenwich House, New York City.

THIS building provides community facilities for the people of a congested section in the older part of New York City, and for the education of boys and girls after school hours in useful pursuits. As will be seen from the illustrations, which are reproduced from the "Architectural Forum," the ground floor is chiefly occupied by the large assembly hall, where the principal activities of the neighbourhood are carried on. A small first-aid room near the entrance serves as a local dispensary. The first floor is given over to a dining-room and class-rooms for instruction in various crafts and household arts. Adjoining the art department is a room for pottery-glazing. The second and fourth floors, plans of which are not shown, are occupied by club rooms in the rear for girls and boys respectively. The front portion of the second floor has a common room and series of bedrooms for the resident workers and the third floor has additional bedrooms for them, together with a suite for the managing director and a group of two guest rooms. Each of the floors is provided with a serving pantry connected with the kitchen in the basement by a dumb waiter, and each of the bedroom floors has a large trunk room and closet for linen storage.

Headstones for War Cemeteries.

These illustrations show some of the headstones which are to be erected in the war cemeteries by the Imperial War Graves Commission. They are 2 ft. 6 in. out of ground, by 1 ft. 3 in. wide, being enriched with regimental badge, official description, and religious emblem, together with relatives' personal inscription or text. Although the headstones are uniform as regards shape and size, there are variations in the arrangement of the enrichments. The stones illustrated have been made by Messrs. E. J. and A. T. Bradford at their studios in Borough-road, S.E.1. They are of stone from the Leckhampton Quarries, Gloucestershire.

Louis XVI. Details.

This sheet of characteristic Louis XVI. detail provides many delightful motifs that are capable of adaptation to modern work.

Théâtre de l'Ambigu-Comique, Paris.

Prominent among the architects of the French Classic school in the early nineteenth century was Jacques Ignace Hittorf, who, though born in Cologne in 1792, is rightly regarded as a French architect, having been naturalised as a Frenchman and having

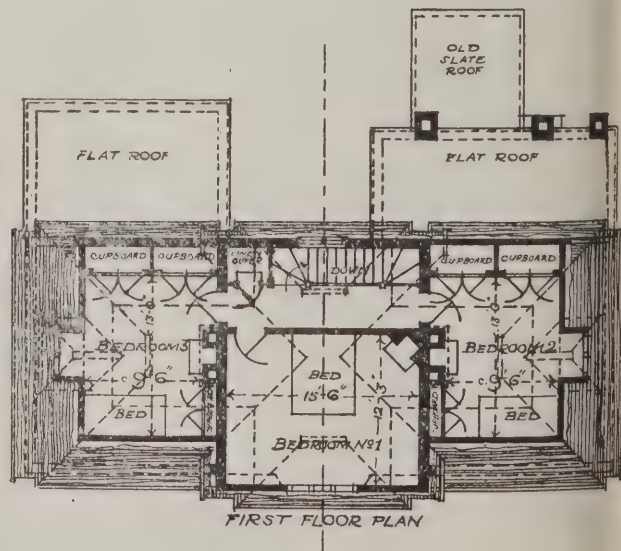
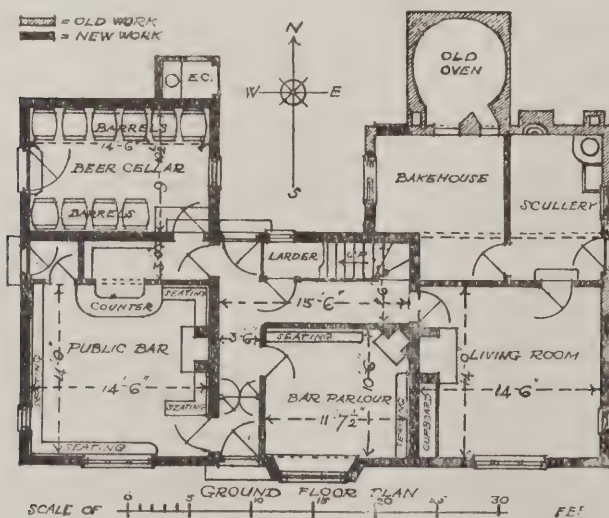
carried out nearly all his important work in Paris. time after 1814. Hittorf became acquainted with Lecointe, with whom he rebuilt, in 1829, Théâtre l'Ambigu-Comique (see double-page p. 568). This building was designed for an awkward site between two thoroughfares—*Coutrée allée du Boulevard St. Martin* and the *Rue de Bondy*; and, in addition, the *projet* included a range of shops. Notwithstanding the adverse conditions of the problem, Hittorf evolved a graceful and pleasing design.

The "Stone and Fagot Inn," Essex.

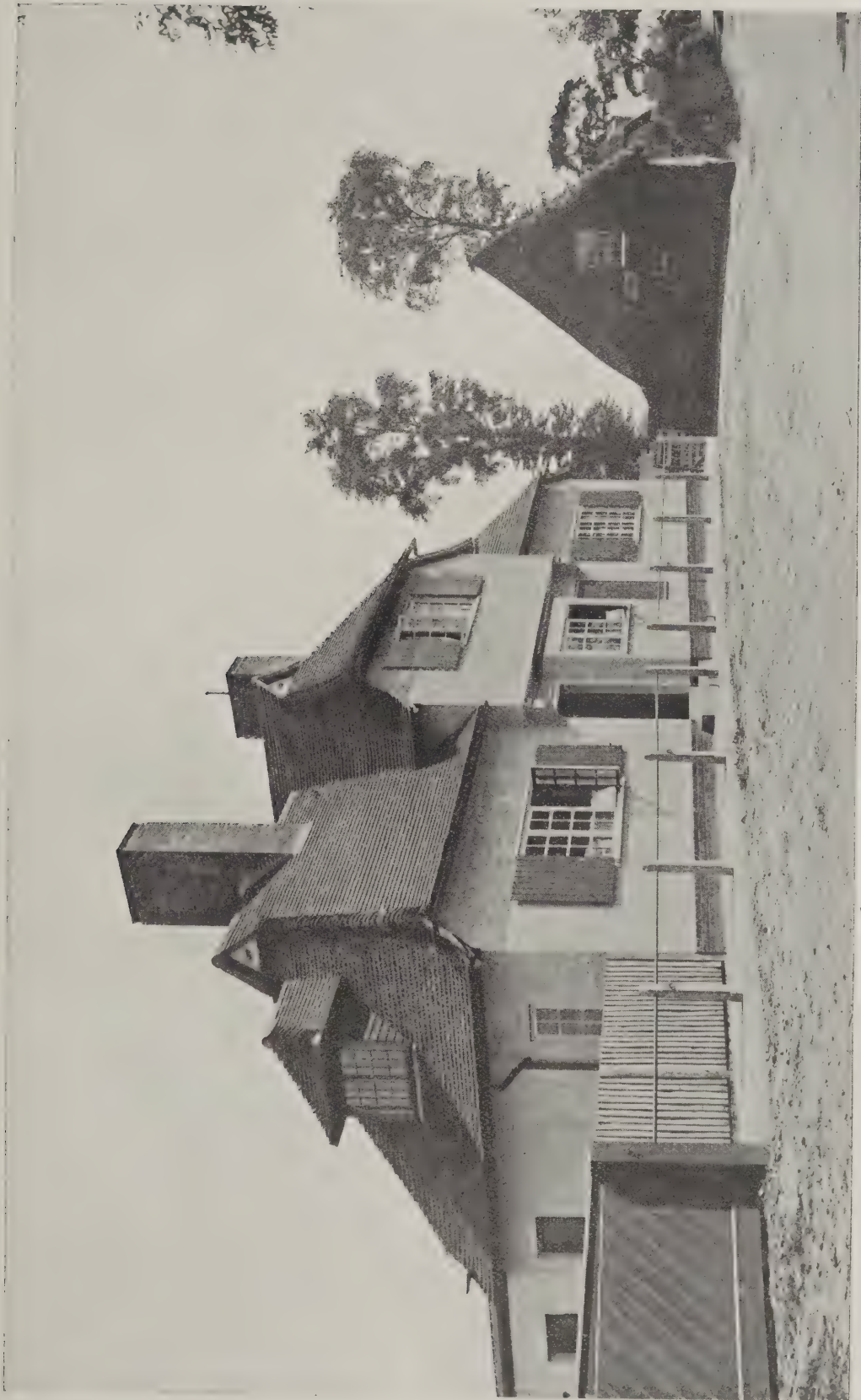
This delightful example of a wayside inn built in traditional manner of its locale, is described in an article which appears on page 568.



DETAIL OF EXTERNAL PLASTER TREATMENT.



PLANS OF THE "STONE AND FAGOT INN." BASIL OLIVER, A.R.I.B.A., ARCHITECT.



THE "STONE AND FAGOT INN," LITTLE YELDHAM, ESSEX. BASIL OLVER, A.R.I.B.A., ARCHITECT

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SOCIETIES AND INSTITUTIONS.

Edinburgh Architectural Association.
The inaugural lecture for the session of the Edinburgh Architectural Association, Mr. Paul Waterhouse, F.S.A., London, took for his subject the "Torch." He discussed the aim nowadays of a "new thing" in the world of architecture, and stated he was against innovation of the kind which involved the breaking aside of old-world traditions, but founded his opinion on grounds of historical and artistic.

Results of Architects' Election.

The results of the ballot for the election of members and Council of the Society of Architects are as follows: President, Edwin J. Sadgrove, F.R.I.B.A. (re-elected); Senior Vice-President, Sir T. Ruthen, O.B.E., F.R.I.B.A.; Vice-President, Mr. A. Burnett, F.S.I.; Hon. Secretary, Mr. Noel Effield, F.S.I. (re-elected); Hon. Treasurer, Mr. George H. Paine (re-elected); Hon. Librarian, Professor Henry M.I.C.E., F.S.I., etc. (re-elected); Members of Council; Major T. Inglis, D.S.O., London; and H. C. H. Monson, London; J. Partridge, F.S.I., London; Wenyon, London; P. B. Houfton, London; and C. F. Skipper, Cambridge.

Architects' and Surveyors' Assistants' Professional Union.

A meeting of assistants, held at Northampton, Mr. Donald Cameron in the chair, Charles McLachlan (hon. secretary) explained the objects of the Union. He said that it was not the intention of the Union to dictate to the provinces, but unless they organised themselves they would only expect disaster. In the end the Union was formed, and a meeting was held in London to be known provisionally as the "Professional Union." The meeting was held in London, and the gentlemen were elected a local committee. Informed by Mr. McLachlan that a meeting would be held in Liverpool, the meeting in London passed a resolution of greeting to their colleagues in that city and called upon them to follow their example. The meeting closed with a hearty vote of thanks to Mr. McLachlan.

Nottingham and Derby Architectural Society.

At the opening session of the Nottingham and Derby Architectural Association, President, Mr. H. G. Watkins, said that some quarters derogatory remarks had been made as to the employment of architects for housing schemes, and suggested that their services were unnecessary. He would say to those who had said that if they recognised the value of the architect's services in designing their houses they could not but admit their value in designing houses and laying out the working classes. It had seemed to him to be a great pity that the architect's services had been reserved for a luxury, mainly reserved for the wealthy or moderately wealthy. For the first time in the history of the country architects were extensively employed in scheming for environments and better houses for the comparatively poor. It was true that the public authorities, and not the architects themselves, who were employed by the architects, but although it might seem Utopian to think so, the time

might come—if the wealth of those classes kept on increasing at the same rate as it had recently done—when, provided that their education and standard of living also increased, architects might in the not too distant future count amongst their clients members of the very classes who were employed in erecting buildings under their direction.

Irish Architects and Health Council.

The following resolution was passed unanimously at a meeting of the Council of the Royal Institute of Architects, Ireland, and the hon. secretary was directed to forward a copy to the Chief Secretary for Ireland and Dr. Coey Biggar: "That this Council views with extreme concern the fact that on the list of names published as forming the Council of the Ministry of Health in Ireland no representative of the architectural or of the engineering profession is included. It is hardly conceivable that the public interest can be efficiently served without the technical knowledge which qualified representatives of these important professions can bring to bear on the many problems relating to public health which it will be the functions of this Minister to investigate."

Leeds School of Art.

Six lectures on town planning are being given at the department of Architecture of the Leeds School of Art by Professor P. Abercrombie, M.A., Professor of Civic Design, University of Liverpool, with a view to introducing a School of Civic Design. An introductory lecture was given by Mr. Raymond Unwin, F.R.I.B.A., of the Ministry of Health. The first lecture has been given, and the following are details of the remainder which will be given in the Lecture Hall of the Leeds School of Art. Admission will be free of charge. II., November 7, "Study of Examples of the Past"; III., November 21, "The Renaissance"; IV., December 5, "The Nineteenth Century"; V., January 16, 1920, "The Comprehensive Town Plan"; VI., January 30, 1920, "The Practice of Modern Town Planning in England."

Institution of Civil Engineers.

The first number of the new series of "Abstracts of Papers in Scientific Transactions and Periodicals," which has just been issued, is in pamphlet form as a publication distinct from the Minutes of Proceedings, instead of having them printed—as they have been since 1875—as "Section III." of the "Proceedings." This arrangement will render the abstracts available more promptly and regularly than was practicable when they were issued with communications which, owing to the situation of many of the contributors, necessarily occupy longer in publication. The numbers will be compiled and printed quarterly. Name and subject indexes will be given in each number, and it is intended that these indexes shall be printed also in the Minutes of Proceedings, so that the latter will contain complete references to all engineering information published by the Institution. The general aim of the abstracts is, as formerly, to give brief summaries of the more important information contained in current periodicals published outside the United Kingdom, the articles abstracted being selected by experienced engineers. This first number is unavoidably affected by the fact that the normal conditions of supply of foreign periodicals have not yet been restored; but it is hoped this difficulty will be removed at an early date.

Architectural Craftsmen's Society, Glasgow.

At the second meeting of the present session of the Architectural Craftsmen's Society, held at Glasgow, Mr. James Muir, president, in the chair, Professor Charles Gourlay delivered an illustrated lecture entitled "Notes on Renaissance Architecture in England." Professor Gourlay referred to the causes which led to the re-birth of classic learning in Italy early in the fifteenth century, and told how the Italian architects of the period evolved the renaissance style by the study of classic Roman remains. The new style spread to France and all over the Continent, finally reaching England early in the sixteenth century. Then, beginning with examples of late English gothic, to show the suitability of this style for the requirements of the time, he illustrated buildings erected by Jones and Wren and their successors. In conclusion, he said that, while maintaining our hold on tradition and continuing to derive inspiration therefrom, we should express modern life in all our work. In this way we may be able to add a genuine link to history and to do our part in carrying on the true spirit of the art of architecture.

ARMY HUTS FOR HOUSING.

The following circular has been issued to local authorities by Mr. E. R. Forber, assistant secretary to the Ministry of Health:

I am directed by the Minister of Health to refer to General Housing Memorandum No. 5 of September 15, in which the Ministry explained the terms on which local authorities may acquire huts and hostels for temporary housing purposes, in paragraph 4 of which it was stated that the Ministry had secured on behalf of local authorities an option to purchase in priority to any other purchaser.

In order to secure that priority and to give local authorities time to consider the question, it has been necessary in certain cases to reserve huts which could have been sold in the open market by the Disposal Board without difficulty. In most cases in which huts are so reserved expense to the Government is involved for the hire of the land on which the huts at present stand.

In order that they may be able to forecast with greater accuracy than is at present possible, the number of huts that will be required and the districts in which they should continue to be reserved, the Ministry will be glad if all local authorities who contemplate the use of huts for housing purposes will submit by the 29th November, if they have not already done so, an estimate on the enclosed form of the number of huts they are likely to require.

When making their estimates, local authorities should consider carefully the possibility of securing suitable sites. They are recommended to consult the Housing Commissioner on this point before submitting their estimates to the Ministry.

The form D114 referred to asks for an estimate of number of huts required for temporary housing purposes; situation of huts known to the local authority which are considered to be suitable; whether the huts are to be converted *in situ* or removed, and whether the site is available. The General Housing Memorandum No. 5, issued by the Ministry of Health on September 15, was published in THE ARCHITECT'S JOURNAL, issue No. 1290, page 398.

CORRESPONDENCE.

"The Open Door."

SIRS,—I think the paragraph, "The Open Door," in the current number of your journal calls for some explanation from me as to the action of my Committee. We do not in any way intend to lower our standard, and shall continue to refuse admission to the Union to anyone who cannot to our satisfaction prove that he is *bona fide* engaged as a technical assistant. If he makes a false statement on entry, and it afterwards comes to our knowledge, he will *ipso facto* cease to be a member. In many societies, moreover, the formality of proposing and seconding has proved no guarantee of the truth of a candidate's statements. As to a member's "manner of entrance into the profession," we simply have to recognise the fact that he is in it. As to proof of our standard, we have but to point to the very high percentage of our members who belong to one or other of the professional institutions, and I think you will admit that it would be ridiculous for us to refuse admission, say, to an A.R.I.B.A. simply because he did not know a member to propose him, a case which has arisen more than once.

CHAS. MCLACHLAN, A.R.I.B.A.,

Hon. Secretary.

Architects' and Surveyors' Assistants'
Professional Union.

Brick v. Wooden Houses.

SIRS,—I venture to utter a strong word of protest against the utterly nonsensical statements of comparative cost of wooden v. brick houses in your issue of October 22. The "Daily Mail" was apparently responsible for this article in the first place, and doubtless these figures are now being quoted by ignorant partisans of wooden houses as convincing proof of their economic superiority.

This is much to be regretted, as the housing problem is quite sufficiently difficult without making it more so, as such figures as these will undoubtedly do. It is quite impossible to analyse the figures in detail, they are so confusing, but may I ask why four and a half tons of timber cost £350 in the case of a brick-built house, and 12 tons 8 cwt. of timber cost £146 for timber-built structure? Apparently the latter does not include labour, but this would not by any means account for the difference.

Why does the timber house require no plaster or distemper? Possibly a mistake has been made in describing the timber-framed structure as a house: it should be called a barn!

C. E. KEW.

BRITISH COMMERCIAL GAS ASSOCIATION CONFERENCE.

The British Commercial Gas Association held their eighth annual conference in the Central Hall, Westminster, on Tuesday and Wednesday of last week. The Right Hon. Lord Moulton presided on the opening day, and the members were welcomed by the Mayor of Westminster (Alderman G. W. Tallents). A feature of the conference was the exhibition of the winning model in the "Daily Express" competition, arranged to show an ideal gas equipment for a modern dwelling, which included a gas incinerator for destroying waste and rubbish. Sir Arthur Hadfield was elected president for the coming year. Mr. H. A. Creasey, consulting expert to the British

Commercial Gas Association, read a paper on "Practical Housing Schemes." He said that gas undertakings must consider the Government housing scheme from every standpoint, to enable them to place before local authorities sound and economical gas propositions. Provision should be made in the housing schemes for all possible requirements, such as gas fires, cookers, water heaters, etc., even if all those desirable appliances were not at first installed. In the negotiations between the gas undertakings and the local authorities a great deal of importance will be attached to the opinions and designs of the architect of any individual scheme. No house was complete without some form of gas-cooking apparatus. When setting out the merits of the gas-cooker for Government housing schemes they could claim reliability, economy, cleanliness, convenience, ease of regulation and saving of labour. Water heating needed great consideration, because the conclusions arrived at and the types of appliances fitted would decide the part gas was to play in the new houses.

WEEKLY HOUSING REPORT.

The return of housing progress issued weekly by the Ministry of Health states:

The number of new schemes submitted to the Ministry during the week ended October 25 was 211, bringing the total number of schemes submitted to 5,648, comprising about 47,500 acres. The total number of schemes approved is 2,055, comprising about 22,600 acres. House-plan schemes representing 2,307 houses were submitted, and schemes representing 1,597 houses were approved during the week. The total number of houses represented in the house-plan schemes submitted is 43,145, and in the schemes approved 28,963. The Standardisation and Construction Committee appointed by the Minister have recently approved several special methods of construction, including many different forms of concrete construction. Some of the firms responsible are prepared to build houses in large numbers throughout the country. Other special methods of construction are now under the consideration of the Standardisation and Construction Committee.

Details of the schemes of local authorities dealt with during the week are as follows:

Building Sites.

Schemes Submitted.—The number received from seventy-one local authorities was 206, comprising about 600 acres, and bringing the total number of schemes promoted by local authorities to 5,575, covering approximately 44,000 acres.

Schemes Approved.—The number of schemes approved was 106, bringing the total number approved to 2,034, comprising about 22,000 acres.

Lay-outs.

Schemes Submitted.—Seventy-six schemes were submitted by forty-six local authorities, bringing the total number of schemes submitted to 1,176.

Schemes Approved.—Fifty-four schemes, promoted by thirty-two local authorities, were approved, bringing the total number of schemes approved to 655.

House Plans.

Schemes Submitted.—Sixty-six full schemes and three part-schemes, representing 2,289 houses, were submitted. The

total number of schemes submitted represent 38,460 houses.

Schemes Approved.—Fifty-six schemes and two part schemes, representing 1,579 houses, were approved. The total number of schemes approved represent 28,096 houses.

Conversion of Temporary Buildings.

Up to October 25 thirty-eight local authorities had applied for permission to provide housing accommodation by conversion of temporary buildings. Conversion had commenced on seventy huts, providing 237 tenements, and tenements are occupied or ready to be occupied.

COMPETITIONS OPEN

November 8.—Leeds: Department Stores.

Messrs. Marsh, Jones, and Cribb, of Boar Lane, Leeds, invite applications from architects who have experience in the designing of up-to-date department stores, and who are prepared to submit in competition, a sketch design for the building they propose to erect in Boar Lane at a cost of about £200,000. Applicants should state on what similar work they have been engaged, and give further information as they think likely to advance their claim to be admitted to competition. From the names submitted the promoters, with the advice of an assessor, Sir John J. Burnet, L.R.S.A., will select a limited number to compete. In the competition the architect of the selected design will be employed. Those placed second, third, fourth, and fifth will receive premiums of 150 guineas, 100 guineas, 75 guineas, 50 guineas. Premiated and other drawings will be returned to their authors. Applications to compete should be sent to Marsh, Jones, and Cribb, Ltd., Boar Lane, Leeds, on or before Saturday, November 8. (It will be observed that only three days remain for sending in applications.)

December 1.—Limavady War Memorial.

The Limavady War Memorial Committee invite qualified architects to submit designs and plans, with particular reference to materials, for this memorial. First prize of £25, second prize of £15 for the design and plans which are the two most suitable for which they award premium to become their property. The award of a premium is not to constitute any engagement or undertaking that the successful architect will be employed to carry out the work. All plans and designs intended for competition are to be sent to the secretaries, Limavady War Memorial Town Hall, Limavady, co. Londonderry, on or before December 1, 1919. Simplicity and proportion will be preferred. Profusion of detail and excessive cost of material. Building in concrete or ferro-concrete should be considered. The total cost of the building (including preparation of site) not to exceed £3,000.

January 17.—Southport: Second School.

Designs for a secondary school are invited by the Southport Education Committee. The successful competitor will be appointed architect for the school. Second and third premiums are 200 guineas and 100 guineas respectively. Assessor, Maurice E. Webb.

QUIRIES ANSWERED.

Strength of Trussed Beam.

M. (West China) writes: "Can me whether the enclosed drawing of a 44-ft. trussed beam is suitable for a flat roof which would be roofed with beroid and which would be used as a n. Of course, this type of trussed quite out of date now in England, we have still to use timber. The size most easily obtainable is about 11 ft. by 7 in.—a hard wood.

The purpose of the beam is to support the flat roof which would be roofed with beroid and which would be used as a n. Of course, this type of trussed quite out of date now in England, we have still to use timber. The size most easily obtainable is about 11 ft. by 7 in.—a hard wood. The elevation of the trussed beam in Fig. 1, the frame diagram will be in Fig. 2, and the stress diagram as in Fig. 3. Such structures can be easily got out from "The Mechanics of Construction." (Longmans, 7s. 6d.) the 11-in. by 7-in. timber obtainable not more than 15 ft. long, there are at least three pieces to make up of 44 ft. They may have plain joints in the top member in compression with fish-plates 11 in. by 3½ in. on the 2 ft. long, with 8¾-in. bolts as in Figs. 4 and 5. For the lower boom in a scarf joint will perhaps be better than Figs. 6 and 7, but this will need four to be used. A vertical stud 7 in. will be required at each end along the vertical bolts for the latter to support up to. The name of the timber given for a clue to its strength, nor its. Being described as hard wood, it summed to weigh 56 lb. per cubic foot to have a strength equal to oak. The maximum stresses

from the diagram Fig. 3 are shear 182 cwt., tension 663 cwt., compression 663 cwt. The maximum intensity of the stresses that may be allowed on the net sections are shear 9 cwt. per sq. in., tension 12 cwt. per sq. in., and compression 15 cwt. per sq. in. It appears therefore that the trussed beam will be sufficiently strong as designed, but the roof joists should be spiked to it where they cross to prevent the buckling of the top member under compression. H. A.

Sanitary Fittings.

F. W. P. (Scarborough) writes: "Can you tell me the names of the makers of 'easy clean' taps, such as 'Sanitor,' and a type of lavatory basin called 'Massivus?'" —We cannot trace the name of the makers of these fittings. Perhaps some reader could supply the information.

Books on Sanitary Science.

READER writes: "Kindly name books that should be studied to gain a fair knowledge of sanitary science."

—There are, of course, large numbers of text-books on the various subjects that come under the compendious term "sanitary science." Following is a useful list: Balfour Stewart's "Physics," Moore's "Sanitary Engineering," Notter and Frith's "Hygiene," Parkes and Kenwood's "Hygiene," Roscoe's "Chemistry," Rideal's "Water Supply," Thresh's "Water Supply," Greenwell and Curry's "Rural Water Supply," Fletcher's "Architectural Hygiene," Herring-Shaw's "Elementary Science Applied to Sanitary and Plumbers' Work."

A PLEA FOR CONCRETE BLOCK CONSTRUCTION.

Mr. W. Brandreth Savidge, A.R.I.B.A., has written to the "Nottingham Guardian" as follows:

I wish to offer a few observations upon the very high, and in my opinion, unreasonably high, cost of building in connection with housing schemes at the present time. Public bodies are accepting tenders for cottages (built in large numbers at the same time) at the rate of between £900 and £1,000 each, which is at least four times the cost of such accommodation at pre-war rates. Such abnormal figures induce the long-suffering taxpayers to ask whether the payment of such enormous sums of public money is really necessary. One reason for these high prices, no doubt, is the fact that it has been considered desirable to build these cottages in a way that will make them last for centuries, when, in my opinion, it would be more business-like to consider a life of say forty or fifty years quite sufficient for such a class of building. The next fifty years will see large changes and improvements in all departments of life, and it is not unreasonable to suppose that ideas as to planning and construction of dwellings will be similarly affected. In fifty years' time these new cottages, which are about to be built, may be out of date, or the location of industries may be changed, so that they may be out of place. We have not reached the last word in the planning and construction of cottages, and there is a good deal to be said for the scrapping of such properties every fifty years or so. In any case, fifty years is quite long enough to look ahead.

The urgent need for cottages is unquestionable, but their building on a less substantial and a less costly system would expedite rather than delay their erection. There is no doubt that by the adoption of one of the systems of concrete block construction the accommodation recommended by the Local Government Board could be provided even at the present time, at from £300 to £400 per cottage, instead of £1,000. Such a form of construction would be sanitary, healthy, and fireproof, and would certainly have a life of fifty years or more. I am conservative enough to deeply regret the necessity of departing from the old-fashioned English type of cottage, but the attitude of labour at the present time, when the object aimed at seems to be to produce as little as possible, at the highest possible cost, makes even the most conservative lover of old architectural traditions look for some less laborious unit than brick.

One way to bring down the cost of building at the present time is to restrict the amount of labour and "hand-work" on the site as much as possible, and to build with ready manufactured articles requiring little labour or scaffolding in erection. Besides which, there is no inherent reason why the system of building advocated above should not be made architecturally pleasing as well as cheap and sufficiently substantial. From a commercial point of view, and taking into consideration the present serious financial position of the country, the object surely should be to spend as little rather than as much as possible at a time when one gets so little for one's money in the matter of building. I feel confident that before many years have passed the country will look upon the building of these cottages at such an unreasonable price as a very extravagant and wasteful expenditure of public money.

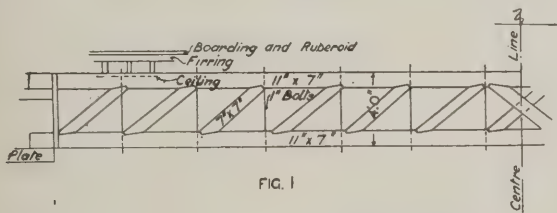


FIG. 1

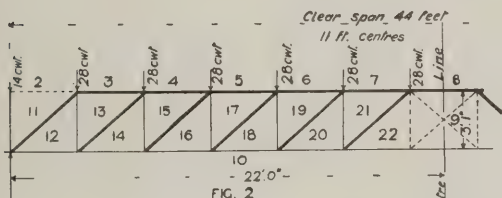


FIG. 2

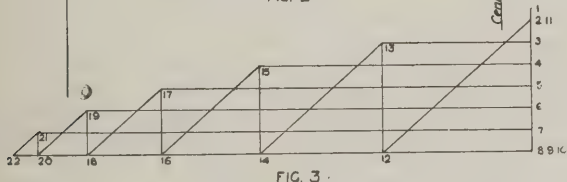


FIG. 3

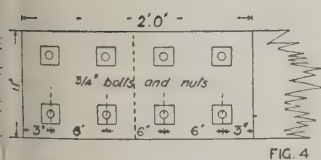


FIG. 4

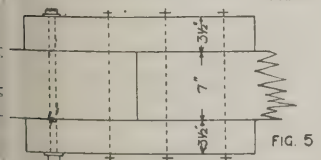


FIG. 5

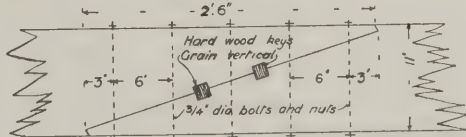


FIG. 6

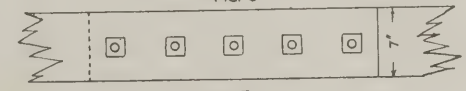


FIG. 7

Town Development and Housing

Barnes.

A dozen houses are in course of erection at Barnes.

Leeds.

Work has been started on the Leeds housing scheme.

Islington.

Islington has received £50,000 from the Government towards road improvements.

Oswestry.

Oswestry Town Council has approved a scheme providing for the erection of 100 new houses, to cost £80,000.

Ilford.

The City of London Corporation, in connection with its £2,000,000 housing scheme, have decided to erect 2,000 houses at Ilford.

Brentford.

Brentford Guardians are willing for the local housing authority to acquire Percy House Schools for flats for local residents.

Warwick.

Warwick Rural District Council's housing scheme for the erection of sixty-six houses has been approved.

Runcorn.

Runcorn Urban Council propose to convert a large disused waterworks into flats for working-class families.

Norwich.

Norwich City Council propose to erect a new bridge at Carrow and to widen the approaches to the bridge.

Bungalows at £1,000 Each.

Twelve proposed bungalows advertised by a Harrow agent have been sold at £1,000 each before a brick had been laid.

Bradford.

The Ministry of Health have granted the Bradford Housing Committee powers for the compulsory acquisition of land for a new housing scheme.

Sleaford.

Sleaford Rural Council has adopted the report of their Housing Committee recommending the acceptance of tenders for sixteen houses at a cost of £12,000.

Chapel-en-le-Frith.

Chapel-en-le-Frith Urban District Council have purchased a large number of huts (recently occupied by German prisoners of war), which they intend to convert into dwellings for the working-class.

Stockport.

Stockport Town Council has accepted the offer of the Mayor to present to the town the Woodbank estate, which is one of the beauty spots of the town, consisting of 250 acres of richly wooded park land.

Preston.

Preston Housing Committee have recommended the Town Council to make an application to the Ministry of Health for sanction to borrow £3,500, the amount of the purchase money of the land and premises known as Ribbleson Farm, to be used as a site for a housing scheme.

Morecambe.

An ambitious scheme, including an extension of the promenade, and the construction of a golf course, park and lake, at an estimated cost of £70,000, has been adopted by the Morecambe Town Council.

Bourne.

Altho gh Bourne District Council have decided to postpone the general scheme for building houses until next spring, they

have agreed to try an experiment by building three pairs of cottages in different ways, viz., two houses to be erected by a contractor on the percentage system; two by direct labour under the supervision of the Council's officers; and two to be built on the lowest tender submitted to a meeting of the Council.

Dumfries.

Mr. J. M. Dick Peddie, Edinburgh, is the consulting architect for the Dumfries scheme. Houses are planned of various types, self-contained, and flatted. Hollow bricks are being used for many of the houses.

Halifax.

A report on the need for houses in Halifax has been received at a meeting of the Housing Committee, showing that at least 940 new houses are required. The first sods are being cut on the Pellon site towards the scheme for sixty-five houses.

Southport.

A Ministry of Health inquiry has been conducted at Southport respecting an application on the part of the corporation to borrow the sum of £33,250. The money is to be devoted to the widening and improvement of various streets.

Glasgow.

The Special Committee of Housing of the Glasgow Town Council have approved a draft housing scheme to be submitted to the Scottish Health Board. It is proposed that there shall be 50,914 houses of the cottage and two-storeyed type, 5,586 tenement houses, and 500 temporary wooden houses. The buildings will be erected partly on ground belonging to the Town Council and partly on ground to be acquired.

Wallasey.

The tenders recommended for acceptance by the Wallasey Council for the furniture and fittings of the new Town Hall amount to £35,014. In addition, £6,615 will be needed for carpets, linoleum, electric light fittings, and contingencies, making a total of £41,629.

A Wooden Garden City.

In order to meet the growing house famine in Copenhagen, the County Council has erected a small village of 132 wooden houses after the American style just outside the town. They now propose to erect another garden city of wooden houses in the same quarter with 216 dwellings and shops.

Compulsory Purchase of Land for Housing Schemes.

The Minister of Health has made regulations adapting the regulations governing the procedure normally followed by local authorities for the compulsory purchase of land for housing purposes. The adoption is to meet cases where it is necessary for the Minister to act under Section 16 of the Housing Act of 1919 to secure immediate provision of dwelling accommodation.

Harrow.

A commencement will shortly be made upon a scheme, approved by the Ministry of Health, for the erection of twenty-eight bungalows at Harrow. The designs, prepared by the surveyor to the Council, in collaboration with Mr. Geo. E. Clare, M.S.A., architect, of Harrow, give practically the same accommodation, with slightly smaller rooms, as the houses of the standard type, at a cost of from £200 to £250 per house less than the tenders re-

ceived in other districts for the latter. The contract which has been accepted for the erection of the bungalows amounts to £18,140. The surveyor to the Council, at a recent meeting of the Harrow Housing Committee, paid a tribute of praise to Mr. Clare for his work in connection with the scheme, which has received much commendation at the Housing Board. He also stated that the Board showed a keenness to the matter, and a ready willingness to render all the assistance they could. They recognised the scheme could be applied elsewhere, and would be of assistance in dealing with the housing problem. The scheme was approved by the Board within a few hours of its being deposited.

Slum Areas Committee.

The first meeting of the Slum Areas Committee, a sub-committee of the Housing Advisory Council appointed by Mr. Addison, the Minister of Health, was held recently at the offices of the Minister. Mr. Neville Chamberlain in the chair. The terms of reference are: "To consider and advise on the principles to be followed in dealing with slum areas, including circumstances in which schemes of clearance should be adopted, and, as regards clearance, the extent to which rehousing on the same site should be required, the kind of housing which should be permitted, and the site for factory or other purposes." The procedure to be adopted was settled. The Committee will employ representative witnesses with experience of actual slum clearance and reconstruction work, and those possessing special knowledge of the problems involved. It has also decided to visit in due course the worst slum areas.

Rowley Regis.

The delay in the progress of the Rowley Regis housing scheme at Rowley Regis resulted in the Urban Council receiving communication from the Minister of Health. As a result a special meeting of the Housing Committee has been held, at which steps were taken to speed up matters in connection with the preparation of the sites and the preparation of plans. Difficulties have also arisen with regard to the price demanded for the sites, in excess of the figure which the local authority proposed to pay. Opinion was divided between the surveyor (Mr. Brettell) and the Housing Committee, the latter having objected to the price proposed by the surveyor on the ground that the scheme was slightly extravagant. The length of the roads and gave insufficient space for houses and gardens. The surveyor, in a report to the Housing Committee, stated that the difference complained of by the Housing Committee on one site is a matter of six yards—very slight one; and the road proposed at Birmingham Road site would be practically useless for fast traffic if the plan of the Commissioners is adopted. If the latter's plan is adopted the whole of the levelling so far done was work thrown away, and he urges the committee to definitely to decide which of the two plans they propose to adopt, as in this is done it was simply a waste of money in taking any more levels on the ground. The committee have decided to accept the plans submitted by their own surveyor as being the more satisfactory.

The Week's News from Far and Near

Harrow War Memorial.
The Harrow War Memorial Committee have been a scheme to erect a memorial at a cost of £25,000.

Leinch Building "Lock-Out."
The Leinch contractors in Lyons have declared a lock-out. More than 10,000 are affected.

Power Station for Nottingham.
It is proposed to erect a super-power station at Nottingham to supply twenty-four neighbouring towns with electricity.

Shepton Mallet War Memorial.
A war memorial, designed by Mr. W. Denning, L.R.I.B.A., is to be erected at Shepton Mallet at an estimated cost of £1,000.

"Mayflower" Memorial for Essex.
A memorial is being raised at Billericay to erect a Mayflower Hall to the memory of three local men and one who sailed to America in the Mayflower in 1620.

Stornoway Harbour Extension.
The extensions of Stornoway Harbour, designed to meet the demands of the fishing industry, are expected to cost fully £100,000.

Sturford Builders Dispute Settled.
The dispute between the builders and employers, which has been in progress at Sturford for some time past, has been amicably settled by direct negotiation between the men's representatives and the employers. An advance of 2d. per hour has been granted.

Convalescent Home to Barrow.
The Vickers have given Infield and grounds to Barrow, as a war memorial, to be used as a convalescent home. The gift represents between £20,000 and £30,000 in value. The house is situated near Furness Abbey, and will accommodate thirty-six patients.

Architectural Practice.
Phillips Dales, M.S.A., who is completing his war services as honours consulting architect to the National Institute of Y.M.C.A.'s and kindred institutions, will resume full activities connected with his private practice at 63, Abchurch Lane, W.C., and Manor Gardens, Heath, Essex.

Alms-houses at Watford.
Frederick Cordery, of "The Foresters' Heath, Watford, who on September 23, gave six freehold plots at Watford for almshouses, to be known as the "Frederick and Ada" Almshouses for "respectable married couples over sixty years of age, and living in Watford for twenty years."

New Industry for Uxbridge.
The Bell Punch and Printing Company, London, have acquired some 100 acres of land in the vicinity of Uxbridge Mills, Uxbridge Moor, and are in progress for the erection of new buildings to provide accommodation for the large number of workmen that will be engaged.

Leinch Trade Secretary Resigns.
A. Dove, secretary of the Leicestershire District Building Trades Association, has resigned for reasons of health and pressure of business. Mr. Dove was appointed secretary

of the Leicester Master Builders' Association, which was subsequently merged into the Leicester and District Building Trades Employers' Association, in 1907. The membership was then sixty; to-day it is 200.

The Cenotaph.

It is understood that the erection of the Whitehall cenotaph in its permanent form will be commenced during the next few weeks. The drawings are practically complete, and Sir Edwin L. Lutyens is engaged on the final stages before he goes to India in connection with the building of the new city of Delhi. The work of completing the cenotaph is expected to take about six months. It is to be of Portland stone, and of the same size as the present monument.

Death of Mr. William Rawcliffe.

The death is announced of Mr. William Rawcliffe, a Lancashire architect, and a councillor of Preston. Mr. Rawcliffe was educated at Preston Grammar School, and served articles as an architect and surveyor with Messrs. Garlick and Sykes, afterwards entering into partnership with Mr. Swindells, and later in practice by himself in offices in Lune Street. He took a keen interest in literature, and particularly in Lancashire dialect stories and poems.

Dundee War Memorial Scheme.

At a meeting of the Dundee War Memorial Committee, Mr. James Thomson, City Architect, advised that before inviting eminent architects to prepare designs the committee should have a figure to work on. If they invited designs on the basis of a memorial costing £60,000, and only raised £30,000, the competition would become ridiculous. After a long discussion, it was agreed that an appeal should be issued to the public for subscriptions, and intimating that £60,000 was being aimed at.

Improving Dover Harbour.

Dover Harbour Board have under consideration a scheme for improving the commercial aspect of Dover Harbour. The tidal harbour will be converted into a wet dock, providing an area of twenty-one acres and a depth of 34 ft., and a quay will be constructed 1,460 ft. long, with warehouse accommodation, and supplied with railway facilities. On the east side will be graving docks and workshops, coal tips, and railway sidings. Provision will also be made for an oil tank to supply shipping. The cost of the scheme mentioned is about one and a half millions.

Marlborough College War Memorial.

Marlburians have decided that a memorial hall shall be built in the college grounds in memory of Old Marlburians who fell in the war. Mr. Cyril Norwood, Master of the College, said it had been provisionally decided that the permanent memorial should take the form of a cloister. There was very little genuine support for this, however, and a memorial hall was now proposed. A suggested site was the paddock below the chapel in Bath Road. The estimated cost of the proposed building at current prices was £35,000, and the subscriptions at present stood at £25,000.

Relic of Ancient City Priory.

Describing the work of restoration at the Church of St. Bartholomew the Great, Smithfield, Mr. E. A. Webb, one of the churchwardens and hon. secretary to the

Restoration Committee, said that a small holy water stoup was found in the course of excavations in Middlesex Passage, which is the site of the original infirmary of the Priory of St. Bartholomew. The workmen who discovered it, being in the employ of the City Corporation, took it to the Guildhall, but the Librarian wrote stating that, in his opinion, the relic ought to be restored to the church. Therefore he was able to bring it back, and it was now deposited in the cloisters for public inspection.

Renovation of Bedern Chapel, York.

An appeal is being made for funds to preserve from demolition the Bedern Chapel, all that remains of a College for Vicars founded in York by William of Lanum in the early part of the thirteenth century. The hall, the dormitories, the gate-house, and the collegiate buildings have long ago been allowed to perish. The chapel is all that remains, and it is now in so dangerous a condition that the City authorities urge that it must either be repaired or taken down. The chapel dates from 1348, and was founded by Thomas of Ottely and William of Cottingham. It is estimated that the necessary work could be done for £900. Subscriptions should be addressed to the Chamberlain of the Minster, 29, St. Mary's, York.

War Memorials for Yorkshire Churches.

Permission has been granted by the York Consistory Court to the vicars and churchwardens of twelve Yorkshire churches to erect memorials of various kinds. These include Beeford, a churchyard cross of Portland stone; Cloughton, a stained-glass window and tablet; Moor Monkton, an alabaster marble tablet; Long Riston, a brass tablet on oak base; Atwick, a Sicilian marble shield with cross and corbels on a black marble ground; Elvington, Devonshire stone tablet; Cudworth, a churchyard cross of Portland stone, 15 ft. high, with names on each face of the base; Laxton, a brass tablet; Bolton Percy, a cast bronze tablet; Edstone, a white marble cross in the churchyard; Lockington, a brass tablet in oak; and Old Malton, a brass tablet on Dove marble background.

Minister of Health and Private Builders.

Dr. Addison (Minister of Health), presiding over a private meeting of the Parliamentary Housing Group at the House of Commons, said that the number of sites acquired was 2,055, with an acreage of 22,495. The big difficulty was the delay in getting plans agreed to, and the completion of tendering. A great effort was being made to expedite these matters. By October 30 all the housing authorities had to submit their schemes. He was most anxious to encourage the private builder, and had completed agreements with the building trade, subject to ratification, on the question of partially developed sites. Considerable relaxation in stipulations and conditions had been conceded. He was also getting groups of builders to agree to erect a certain number of houses, and he hoped to do this, if possible, in conjunction with local authorities. It might be necessary, however, to take further powers in this connection.—Sir Kingsley Wood said that local authorities had acquired 385 hostels and huts, that the total amount of loans already authorised exceeded £6,000,000, and that the average cost of a house was £707. With a view to facilitating building and cheapening cost, new methods of construction had been

approved. These included concrete, steel and concrete, terra-cotta hollow blocks, timber-frame construction, and the use of surplus war materials.

Increase of Production.

The Priestman scheme of co-operative production, which has been successfully adopted in the iron industry, is being advocated by the Higher Production Council to secure increased production in other trades, the confidence of the workers and their trade unions, and an improvement in both wages and profits. The scheme, adopted in March, 1917, by Priestman Brothers, Ltd., is operated through a works' committee, composed of representatives of the different trade unions, all communications from the men being through this committee dealt with by the management, who preside at the monthly meetings when the output is declared. At the formulation of the scheme the men were paid a 10 per cent. increase on their day work rate of wage, whether the output was increased or not. A standard output was devised, and when output is increased by individual output above that standard without adding to the number of men employed or the hours worked, the day rate wage is supplemented by a percentage equivalent to the increased output. The scheme provides so that the standard varies in direct proportion to the total number of hours worked by the whole of the employees. Full particulars with regard to the scheme may be obtained from the Higher Production Council at Whitehall House, 29, Charing Cross, London, S.W.1.

TRADE AND CRAFT.

Catalogues for Trieste.

H.M. Consul-General, Trieste, desires to receive trade catalogues for exhibition in the Consulate, with extra copies for distribution. Catalogues should be sent direct to the British Consul-General, Trieste.

British Trade in California.

The British Consul at Los Angeles, California, points out that to commence business with American houses, attractive circulars should be sent, giving the price (free of duty and carriage), in dollars and cents, for a small shipment. The average merchant in these parts will not take the trouble to find out what the carriage will be, and will not give orders. If tempted with a lump sum to cover everything, he would probably give a trial order, out of which much business might develop.

A Patent Window Clutch.

Messrs. Cliffords, Ltd., of Peterborough, have sent us particulars of their patent window clutch, which can be used for either vertical or horizontal windows, and which can be adopted for right-hand or left-hand fitting. The clutch, which is made in brass, and which secures a window in any desired position by a small movement of the handle, consists of two discs, one working inside the other. The hinge and fastener are manufactured in one piece, and fixed or detachable handles are supplied, the latter being more suitable for public institutions and schools.

Office Accommodation, Calcutta and Bombay.

British firms intending to open offices in Calcutta or Bombay are advised by H.M. Trade Commissioner to make arrangements to secure office accommodation and residences for their staff. There is a shortage of housing accommodation for

Europeans in these cities. Speculation in land and houses has been active, and great profits have been made. The result is that to secure an adequate return on capital, rents have been increased in many cases by 50 per cent. and over, which house-holders are obliged to pay, as it is impossible to secure accommodation elsewhere.

Colouring of Portland Cement.

An impervious floor of Portland cement, coloured black by the admixture of chemicals, has been devised by Messrs. Kerner-Greenwood and Co., Ltd., for use in the construction of floors for coffee drying. The floor, which is claimed by the company to have all the essential qualities of a coffee drying ground, is made impervious to dampness by the addition of a small percentage of "Pudlo." A leaflet on the colouring of cement has been compiled by Messrs. Kerner-Greenwood and Co., Ltd., who will be pleased to send a copy on request.

Asbestos.

The current issue of "Asbestos," the monthly magazine of Turner Brothers' Asbestos Company, Ltd., contains many instructive and interesting features, including a number of articles on technical, labour, and other questions, an Address to the Workers, by A. Rowland Entwistle, and notes on various up-to-date subjects. On the cover appears an allegorical drawing of the company's "House Mark," by Bernard Partridge, and a folding plate of the "Roll of Honour," which gives the name of the employee and the year of enlistment. "Asbestos" is published free by Turner Brothers' Asbestos Company, Ltd., and embodies contributions from members of the staff, workpeople, business friends, and well wishers of the company generally.

Sanitary Fittings.

To assist their clients in arriving at the approximate prime cost of sanitary fittings, a current price list has been compiled by Messrs. Mellows and Co., Ltd., sanitary and heating engineers, of London, for their catalogue No. 6. The fittings for which prices are given include water closets, water waste preventers, seats and brackets, lavatories, valves and waste fittings, toilet accessories, baths, urinals, and sinks, and the prices are right up-to-date for goods in stock in London. The company propose to reissue the price list from time to time, monthly or bi-monthly, as necessity arises from the fluctuation of prices. This is a movement in the right direction, and will be welcomed by architects, who should find the lists of the greatest assistance. Up to the present time there has been the greatest difficulty in obtaining an approximate prime cost without carrying out the most exhaustive enquiries.

COMING EVENTS.

FRIDAY, NOVEMBER 14.

Royal Sanitary Institute, Town Hall, Bootle.—Discussion: "Reconstruction of the Public Health Services." Opened by Dr. E. W. Hope, O.B.E., D.Sc., M.D. Sir Henry Tanner, C.B., I.S.O., F.R.I.B.A., will preside. 7 pm.

MONDAY, NOVEMBER 17.

Liverpool Architectural Society (Incorporated).—Dinner to overseas members of His Majesty's Forces.

MONDAY, DECEMBER 8.

Liverpool Architectural Society (Incorporated), 13, Harrington Street, Liverpool.—"Building Contracts," by Captain E. J. Rimmer.

LEGAL.

Dilapidations : House Taken by Military Authorities.

Hutchins v. Chapman and Martin.

October 23.—Official Referee's Court, before Mr. Pollock.

This action arose out of the occupation of a house by the military, and was for recovery of money paid in respect of dilapidations.

Mr. Beasley with Mr. Brandon appeared for the plaintiff, Mr. Alfred Hutchings, of Sutton Estate, Sussex, and Mr. Morton Smith was counsel for the defendants, Messrs. Chapman and Martin, auctioneers, surveyors, and valuers, of High Street, Lewes.

The plaintiff is the owner of a house on premises known as "Hawkeswood," Sutton Avenue, in the parish of Sutton and in November, 1916, he was approached by the War Office with a view to the house being taken over for military purposes, but nothing in the way of an agreement was arrived at, and in December the house was taken over under the Defence of the Realm Act. The Military went into possession, and used the house as an infectious hospital. The defendants made an inventory of the state of the premises when the Military went in, but that, the plaintiff said, was not done upon his instructions. The Military remained in occupation until August 15, 1917, after which they went out before that. The defendants' firm were employed by plaintiff architects and valuers to determine and agree on a bill of half on all matters in regard to dilapidation arising between him and the Secretary of State for War. During the negotiations the plaintiff pointed out that, having regard to the purposes for which the house had been used, all the woodwork would have to be repainted, and it was also pointed out that a plantation which had taken years to grow had been cut down, the premises being depreciated in value in consequence to the extent of £10 or £15 a year. The house was originally let at £110 a year and later at £100. When the survey was made the defendants put the amount of damage at £37 16s. 6d., an exceedingly small amount under the circumstances, said counsel, and in answer to a question put in that regard the defendants stated that the medical officer, Dr. Scott, stated that the place had been thoroughly disinfected, and was safe for occupation. Ultimately, as the result of a correspondence, the Military authorities had paid £44 2s. 6d., which the defendant had retained. It had actually cost the plaintiff £80 to put the house in such a state of repair that a tenant would take it. On behalf of the plaintiff it was contended that the inventory was inadequate and unfactorial in amount, considering the state in which the house was when the Military left it after having used it as an infectious hospital for the best part of seven months.

The defendants counter-claimed £32 3s. 6d. for work done largely on account of which the action was brought.

Mr. Hutchings, the plaintiff, who said that he was an architect and surveyor formerly carrying on business in Victoria Street, S.W., gave evidence generally supporting the facts as stated by counsel.

At the conclusion of the plaintiff's examination in chief a settlement was arrived at, under which judgment was entered for the plaintiff for £40 beyond £5 13s. paid into court, with costs of the plaintiff withdrawing all allegations of negligence against the defendant.

Architects' Journal
Nov. 12, 1919

The Architects' Journal
Volume L. No. 1297

THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS

With which is incorporated "The Builders' Journal."



COMPOSITIONS BY BOUCHET (II.).



Photo. : Lewis Mercer,

JOHN CROSS'S ALMSHOUSES, LITTLE PARK, AMPHILL, BEDS. (ERECTED 1690).

THE ARCHITECTS' JOURNAL

Architectural Editor: Professor A. E. RICHARDSON, F.R.I.B.A. Literary Editor: J. FINDLAY McRAE.
Organising Editor: G. J. HOWLING. Assistant Editor: EVERARD R. H. READ.

27-29, TOTHILL STREET
WESTMINSTER, S.W.

Friday, Nov. 12, 1919

Volume L. No. 1297

Approved Construction Methods

to render themselves immune from subsequent charges of displaying unpardonable prejudice towards new or unusual methods of construction, the Ministry of Health have, in the eighth number of this fortnightly journal, published a list of constructional methods which have met with the approval of the Standardisation and Construction Committee. A glance at this list would seem to indicate at least a few of the bonds of red tape, which, by its assertions, successfully impede and thwart any progress that may be made towards effecting a progressive achievement on the part of a Government. These bonds have burst with a snap, whose reverberation should be of almost alarming distinctness, and it is that a persistently inimical attitude towards the most traditional methods of construction is discarded must henceforward be made with greater freedom.

The list of approvals ranges over a diversity of methods which includes many methods of concrete construction, both pre-cast and site-moulded, and in some cases enforced with a varied assortment of materials. Employing timber, three-ply, and terra-cotta have received sanction. In nearly all cases sample photographs where they are not already completed, are included in the erection, so it may be presumed that the expert architect has afforded an opportunity to satisfy himself as to the structural soundness of a particular proposition. The prospective tenant or client may obtain a more accurate idea of the appearance and design of the finished building than the medium of an untrained eye would derive from a two-dimensional drawing.

The first item on the list of approvals gives an ample opportunity for estimating the full measure of the Minister's return swing. The method is one put forward by Captain Adams, and consists of a building framework "is composed of disused under-parts of motor-cars, lorries, tram rails, etc." Is it possible to list considering the very original proposal of Captain Adams, an alluring vision of a solution to the Slough problem suddenly and unexpectedly presented itself to the possibly jaded members of the Standardisation and Construction Committee, so that the vaunted achievement of killing two birds with one stone became, for the nonce, a task of childlike simplicity? Here, indeed, was a heaven-sent opportunity for fully circumventing the twin scandals of the building shortage and the Government waste!

Those who insist upon a close relation between the function and ornament of a building, and who urge that a system employed should have its own appropriate forms, may find themselves faced here with a display of unusual novelty in the way of embellishing the symbols of the road become transmuted into architectural values. There is, indeed, unlimited ingenuity to the user of "disused under-parts of motor-cars, etc." For instance, it is conceivable that a fully tapered Vauxhall bonnet supported on a

chassis, over which the scarlet rambler would, it is hoped, in the fullness of time, not scorn to thrust its tendrils, might form a porch of hitherto unsuspected charm. The resplendent Rolls-Royce wheel could end its days in placid contemplation of sweet rustic scenes, firmly embedded as an "œil-de-bœuf" amidst the choicest brickwork. And for the less prominent parts, too, a continued life of unmitigated usefulness might well be found. A motor-horn at the front-door would form an effective—if not entirely dignified—means of announcing arrival upon the door-step, and one, too, that might be calculated to call the most indolent domestic swiftly into action. The petrol-tank could, with certain adaptations, replace the flushing cistern, and the steering pillar complete with wheel the solid oaken newel.

However, although the statement is set forth in all its baldness, in such a manner that it cannot fail to make upon a reader not totally devoid of humour any but a comic appeal, provocative, upon the first casual glance, of facetious comments, yet the bestowal of a little thought may suffice to show the wisdom and indeed the practicality of the suggestion. The metamorphosis of a slag-heap—moderately free from sulphur—into a row of cottages, is one to which now but little exception is taken, for it is realised that where aggregate is plentiful and other materials are scarce the proposition of concrete houses is one which daily commends itself with ever-increasing persistence. Where, then, is the cause to demur at the use of discarded metal, even if "from the under-parts of motor-cars" as a means of reinforcement? And, although, perhaps the æsthetic ideals of the more sensitive may suffer a momentary shock of some unpleasantness, this should not be permitted to obstruct the proper functioning of their reasoning faculties. Thus, if for want of other supplies clinker and scrap iron—whatever shudders the crudeness of the statement may evoke upon the fastidious—can be made suitably subservient to the present very urgent need for houses, who shall gainsay it?

Many of the approved methods included in the official list are not without interest, displaying, as they undoubtedly do, much ingenuity, this quality being particularly apparent in a system known as "slaters' three-ply walling," which consists of an outer wall of half-brick thickness, with a lining of 3 in. concrete slabs, between which exists a $\frac{3}{4}$ in. cavity, which is filled with cement grout, forming a vertical damp-course. This system permits the utilisation of old brickwork, which, since the present output of bricks is both inadequate in quantity and poor in quality, would appear to be in the nature of a distinct advantage.

There is a certain danger that trouble may arise, just by reason of the simplification which has been brought about in the mechanical processes of concrete block manufacture. Mr. John Mitchell's method comprises a block-making box, which "is easily operated by a man and a boy." There is no reason to doubt the truth of

this statement; indeed, the measure of it is to some extent the measure of the danger, for it is upon the proper mixing of the ingredients in their exact proportion, and under right conditions, and upon the careful filling of the mould, that the ultimate success of the finished product depends, and these are operations which cannot be lightly undertaken by those utterly untrained in such matters. Local authorities—particularly boroughs with the clinker from their municipal refuse destructors—who are in possession of large supplies of suitable aggregate are somewhat apt to entrust the work of concrete block making to the hands of incompetent persons, who are furthermore often insufficiently supervised. The result of building extensively with blocks made in this way might be most disastrous.

Where timber-framing is permitted the necessity for adequate precaution in regard to risk from fire is emphasised, and the use of match-boarding for an internal lining is altogether forbidden. A permanent covering for the roof must be employed, and the house

must be built on a suitable concrete or brick foundation. An element of risk inevitably accompanies the extensive use of a new method of construction. Each material has its own particular characteristics, equal source of its strength as of its weakness. And the extent of such peculiarities is only to be learned by actual contact with the work, each material acquiring in the course of time its own particular tradition of craftsmanship—a matter too evasive for the text-book, too elusive for the lecture-hall; yet only by their use can the risk of failure be reduced to the minimum, and without risk no advancement can be made. The unusual circumstances call for a careful policy, and it is to be hoped that these sanctions imposed by the Housing Department has discarded the policy, whilst retaining prudence. It is for this reason that we can actively to assist, and for the others to refrain from hindering with obstructive prejudices: for, let us not forget that the proof of the pudding is, after all, in the eating, and not in the recipe.

Notes and Comments

The R.I.B.A. Inaugural Meeting.

THE inaugural meeting of the new session of the R.I.B.A. can have been but seldom equalled, and never, we are assured, can it have been excelled in intensity of significance by any of its precursors. Not that it had any exceptionally attractive feature. There was, of course, the personal magnetism of the President—in itself sufficient to account for a full assemblage; and there was present the American Ambassador to uphold the tradition of superlatively felicitous speaking that is the goodly but exacting heritage of the successors of a Lowell, a Choate, a Page. With such graceful ease did he wear the mantle that his was unquestionably "the speech of the evening." But the magnetism that pervaded the meeting was spontaneous, and was neither generated nor greatly excited by anything that happened there, although the presidential address, and the speech of the American Ambassador, were true to it as the needle to the Pole. As the President must have prepared his address in advance of the meeting, it is remarkable with what close sympathy he anticipated the feelings that prevailed there. His address, a rousing incentive to high aim and strenuous endeavour, hit exactly the mood of the meeting. One felt that the hall was filled—as it was to overflowing—with men who had come back to architecture with the determination to walk worthily of their high calling, to bring to its service in full measure all the resources they could command or develop, all the skill and knowledge they could acquire, all the energy and intelligence with which they were endowed—to serve the exacting Mistress Art with mind, soul, and strength.

The Compleat Architect.

In his attempt "to sketch," as he put it, "the compleat architect," Mr. Simpson left out a detail which we should hold to be rather important. It is fine that an architect should be artist, geometer, and technician, geologist, mason, bricklayer, carpenter, metal-worker. One can excuse his being "Jack of all trades and master of none," provided that the sciolism does not extend to his profession. That he must know "something of everything, and everything of something," may well be his aspiration, even though he know that few there be who attain to it. No man not an absolute genius can be the "compleat architect" sketched by the President, who, however, as we have said, left out something that, being omitted, leaves the composite portrait lamentably incomplete. We have always held that the average architect does not sufficiently recognise his obligations of citizenship. How many architects were candidates in the recent municipal elections? It is to be feared that the answer to that simple question would conclusively prove

our charge. No man in the kingdom knows more of our French confrères than Mr. Simpson knows. Then, did he not urge the British architect to regard citizenship as well as architecture? To be a "compleat architect" is not the whole duty of man, and it should be strongly urged, in season and out of season, that they take up civic duties that hitherto they have neglected. The world has need of the peculiar qualities of the architect—the scholarship, the philosophical outlook, the judicially impartial habit of mind that all require special training; and it is in the Labour world especially that their benign influence could be most effectively exercised. They should make idealists in building-trade Labour disputes, and the exercise would bring them accomplishments not inferior to those of the score or so of assets that Mr. Simpson proposed it would make them much more familiar than they otherwise hope to be with human psychology, and bring them into contact with the raw material of political economy. Then they could more truly judge these things in terms of their art, for thus they would know more of the mind of the mason, bricklayer, carpenter, metal-worker, and it is quite as important that they know this as it is to get a smattering of the craft of these tradesmen. But, as a parodist has said, "there is nothing that exceeds like excess," and the President was wise in reserving for a further occasion the points that demand special treatment on a more large scale than could be afforded them in a general address in which the laws of proportion and perspective were observed rather rigorously. But it would be a fair exception to minor faults in an address taken as a whole, so happily expressed the spirit that animates the profession. The address was in a high degree praiseworthy—all the more so for its courageous optimism.

A Composite Picture.

Knowledge of accounts; familiarity with the practice of expertness in verbal expression, whether as speaker, should be added to the make-up of the parts, this Admirable Crichton who would be a particular, but a sort of Everyman—or, as the President happily put it, the man we would all be if we could—so many accomplishments cannot crowd into the years of a working life." But the "fancy portrait" is legitimate as well as useful. There is very considerable interest and a certain amount of inspiration in the composite photograph that Professor Lombroso, Dr. Galton, and other curious savants delighted to study the object of making useful generalisations; and the warrant for the fancy portrait could be inferred from the practice of the artist with the human figure.

figure is perfect, he takes the limbs of one, the head of another, and therefrom draws the lovely form than mortal artist's model ever sed. Some such method Mr. Simpson was in adopting for his figure of the Compleat ect. It was surely professional instinct that led to build up thus his model: for is not architecture niently a synthetic art? Luckily for the sound- f the result, two truths about it emerge conspic- One is, that the profession as a whole certainly ses in full measure all these gifts and graces; and her is that happy partnerships between men of bent are more common in the architectural pro- than in any other, except perhaps the medical. kind of co-operation of which the principle admits ended applications that are too obvious to need eration. Of partnership in a larger sense, of ship in the service of art and of humanity, this id meeting was a symbol and an earnest. It was rallyng of the vanguard of a great forward move- the inauguration not merely of a new session, but ew epoch, in which we are to go forward in a ed spirit of faith, hope, and charity.

The London County Council Housing Dilemma.

At last week's meeting of the L.C.C., Mr. Bernard id, Chairman of the Council's Housing Committee, the unpalatable announcement that no new houses l be available this year under the Council's housing es. This statement aroused the indignant protest as Lawrence, who said that failure of the housing ment to send out quantities had caused contractors ddraw their tenders, and that, further, "the Com- had turned down the proposal of a responsible i for the employment of direct labour, although the eg of cottages could have been carried out by small l, so that the work could have been handed over to ractor at any time." We do not think that either t is quite as simple as it may have seemed to the who, however, was amply justified in calling atten- to the untoward delay in getting to work. Con- ts are, at the present juncture, suffering much enience and discouragement with respect to ns, natural or artificial, on supplies and labour; a any circumstances, tendering without quantities rher more hazardous enterprise than making bricks t straw. As to the employment of direct labour, Holland said it might involve the provision of an ive staff at £22,500 a year, with a further £8,000 000 to furnish their offices. Also there would be a of some six months or so in getting ready to make e! He added that "he did not think it would be to proceed by direct labour, save in the last ity." It would, on the contrary, be perfectly , as the history of the unhappy old Works Depart- roves up to the hilt, and as, indeed, common sense suggest. Efforts to eliminate the contractor have failed signally, and always will fail, because he ained specialist in buying, in supervising, and in eral economics of building—is himself, in reality, n of economy, because what he gets out of the aking is saved many times over through the ay knowledge and methodical skill with which he s it. Great as is the need for expedition in house- g, the Council is justified in refusing to be hustled mic-driven expedients.

Local Authorities and Housing.

Local authorities are making a pretty bad mess of the task that has been thrust upon them. Nobody the Government ever supposed them capable of moderate success in so difficult an adventure. At thanks, apparently, to the benevolent interven- Sir James Carmichael, the Government is begin- to realise that building should be entrusted to s rather than to a committee of amateurs, who, to n justice, are in many instances very reluctant to

assume a responsibility for which they know themselves to be entirely unfitted. Nowhere have they been able to cope at all successfully with the enormous difficulties of the situation, and their failure at the fences was confidently anticipated by those who watched their career when the course was unobstructed. At the moment when the Government scheme was first put forward, we said, what we have lost no opportunity of repeating, that the so-called "speculative builder," who, having for several decades specialised in the erection of small houses, had accumulated a vast fund of experience and a high degree of specialised skill which it were wicked to waste.

The New Theory of Light.

What practical consequences, if any, may arise from the new theory of light discussed by Sir Frank Dyson, the Astronomer-Royal, at a joint meeting of the Royal Society and the Royal Astronomical Society, cannot be foreseen. As, however, the architect takes all knowledge for his province, he will have taken a keen intellectual interest in the denial of the existence of ether, even though he strongly suspects that the discovery, howsoever well attested it may be, can have no practical bearing on the practice of his profession. That rays of light have been proved (from photographic plates of the eclipse last May) to have been deflected in their passage past the sun, thereby challenging the current theory (Young's) of light as a wave motion transmitted through ether, and suggesting that light is a substance, is a supposition that may seem at first to have only the effect of substituting one working hypothesis for another; but the establishment of a more correct theory entails almost far-reaching consequences that are not at once foreseen—it gives a fresh and powerful stimulus to thought, and indicates new directions for research. Quite obviously a new theory of light must have the direct effect of quickening the impulse to invention in those who are constant in the endeavour to improve or to cheapen artificial illuminants; the new theory of light may ultimately result in a new practice of lighting, but what further effects may accrue it would be rash to attempt to forecast.

A Shakespeare Memorial Theatre.

At a meeting of the Shakespeare Memorial Committee, Earl Lytton stated that a site for the memorial theatre that the executive had determined to erect had been secured in Gower Street. It is not a conspicuously wise choice. One finds it difficult to associate Gower Street with a playhouse. Theatres of other character are associated with it. There are doubtless operating theatres in University College Hospital, and a lecture theatre or two in University College, of which the foundation stone was laid on April 30th, 1827, by H.R.H. the Duke of Sussex. In designing it, William Wilkins, R.A., achieved his masterpiece. His National Gallery, though by no means so bad as scornful critics would have us suppose, is not comparable to the College, but would have been a vastly better building if Wilkins could have had a free hand. But the serene classicality of Gower Street should have a beneficial effect both on the design of the new theatre, and on the character of its management. The further it removed from the fabrics, the methods, and the vicinity of Theatreland, the greater will be its chances of artistic (though not, we fear, of commercial) success. Our choice of a site would have been the south side of the river, where Shakespeare had his Globe Theatre, and where, in his day, several other theatres, or at all events places of entertainment, flourished prodigiously. With the Shakespeare Memorial Theatre put up either on the site of the old Globe, or further along towards the London County Hall, and with the London University buildings next the hall, we should have made a grand beginning towards the reformation of the south side, for which all real lovers of London continually do pray.

Architectural Causerie

DINING on Friday last with a well-known architect, who, by the way, is an authority on all that pertains to the buildings of the Tudors, the Stuarts, and the Georges, conversation became brisk on the subject of London. We settled down to an unrehearsed entertainment, which began between the soup and the fish, and was continued until the silver-toned chimes of the regulator in the hall warned us of the approach of midnight. Being at a distance from town, we could visualise the curiosities of its character in a new way. First we indulged in retrospective, conjuring up the aspect of old St. Paul's as it appeared to Wenceslaus Hollar. Then we fell to gossiping on the desolation of the City after the conflagration had done its worst, recalling the intimate account rendered by Master Pepys, and speculating on the origin of such oddly-named streets as Pudding Lane and Pie Corner.

As we gossiped so the jolly old characters came to life. There was Vanbrugh hurrying to the Haymarket to see what progress his new theatre was making; Addison stopping to exchange a word with the old upholsterer at his bench in the Mall; while Kipps, sketching materials in hand, hied him to St. James's Square to verify some details of the façades for his projected views. It was quite convenient to shift the clock on twenty years or so, for we wished to see the German retainers of the first Georgian Court lolling in their heavy coaches, disdainfully looking upon some English beauty in a Sedan chair. With Gay we walked the streets, chatted of the perils of Lincoln's Inn Fields; shared all the excitements of the Bubble, and of the forty-five with the half-naked Scotch at Derby. There was our old acquaintance Isaac Ware enjoying the aspect of some of his house-fronts in Mayfair, chuckling to think that his book was such an improvement upon the tome produced by Leoni, and there was Mr. Robert Taylor on his way to Dover Street to survey the site of Ely House, passing Hogarth in Piccadilly. In less time than it takes to pen, we had dispensed with the services of the Paines, we had tucked poor Stuart safely away, congratulated the frigid Sir William on his allegiance to Rome; discussed the public buildings with Ralph, visited Mrs. Coade's works at Lambeth, and caught a glimpse of the younger Dance showing his collection of plates from Piranesi's press to the boy Soane. It would need the combined energies of Gibbon and Hume to say nothing of Johnson, Boswell, and Horace Walpole, to write up the characters of the puppets that demanded notice when our tongues announced their names. Having encouraged an atmosphere of old London, we turned the talk on the nomenclature of the streets, and, as the discussion became analytical, I have seized upon it as matter for my paragraphs; so here it is, and if it overflows these columns there may be space for it to continue next week.

On the authority of Washington Irving we are told that Little Britain derives its name from having been in ancient times the residence of the Dukes of Brittany. In the seventeenth century it became the quarter of the booksellers until Paternoster Row received them, and to-day it is part of the general mosaic of the City. Only on rare days do the scholars of Christ's Hospital journey from Hertford and Horsham to visit its precincts. Bartlemy Fair no longer creates a stir, but in November old excitements are recalled by the pageantry of my Lord Mayor. Addle Street can be traced to the days of the Saxon King Athelstan, who had a house with a door to the street a hundred and forty-two years before William landed at Pevensey. At one time, tradition asserts, it was written King Adell Street. Aldermanbury formerly held the bury or court of the Mayor and Alderman of the City. Aldgate means the Old Gate,

the first structure being mentioned in 967, the date of erection of the last gate being 1609. For the Adelphi we are indebted to the brothers Adam, who came from north of the Tweed to start their speculation on the site of Durham Yard. What a pity neither the schemes prepared by Trench and Allom for extending the terrace groupings from the Adelphi to the minster and London Bridge never had a chance of realisation. Austin Friars takes its name from a monastery near by bearing the name of St. Austin, a missionary from Pope Gregory is said to have introduced chanting into divine service.

Battle Bridge, near the gasometers overshadowing old St. Pancras, records a terrific struggle between the British and the Romans. Bartholomew Fair recalls a privilege granted to the Priory of St. Bartholomew by Henry II. to hold a fair annually. Here was the Court of Pie Poudre. Billingsgate signifies the fish quay, or wharf of one Billings. Dutch William made a free port for the sale of fish in 1699, since when it has become noted for its contributions to the language. Bishopsgate, one of the old City gates, is conjectured to have been built in the year 1,200 by a bishop; its position was near Bishopsgate Church. Bread Street, Cheapside, is associated with the bakers, who in the fourteenth century were obliged to bring their bread to the market, which was held there, for the laws forbade the sale of bread in their own shops or houses. Budgebury, so it is said, derived its name from one Budge who lost his life by the falling of a stone, when pulled down an old tower which was built by Edward I. into his house, intending to replace it by a "goodly house of timber." Another finished the house and married the widow.

Buckingham House, originally built by John Shute, Duke of Buckingham, in the second year of Elizabeth's reign, and facetiously called "The House That Built," stood on the site now occupied by Buckingham Palace. Butcher Hall Lane, called in the time of Henry VIII. Stinking Lane, no doubt on account of the shambles, at one time held the Hall of the Butcher. Bridewell and St Bride's Church both derive their names from the well dedicated to St. Bride, or St. Brigid. Budge Row was named after Budge Fune and of whom I am dwelling there. Blind Chapel Court, Mark Lane, was originally Blanch Appleton in the reign of Edward I. of pious memory, the quarter of basket-makers, drawers, and foreigners, such as were not allowed to have open shops in the City. Bow Lane is associated with Bow Church, St. Mary de Arcubus, Wren's magnificent tower, standing upon a portion of the Norman crypt. Barbican derives its name from a watch tower or burk kenning, which ceased to exist in the reign of the third Henry. Broken Wharf, Thames Street, is named from a part of the wharf having fallen into the Thames and remaining in that state for years. Nunnery is the Church of St. Mary Somerset. This took its name from a person named Somers, who had a hithe, or wharf, anciently called Somerhithe, now corrupted to Soane. So endeth a summary of some of the streets beginning with the initial letter B.

What a lot of space this catalogue takes up! Having started to recount a gossip conversation, I must perforce continue. Covent Garden, formerly Coventry Garden, belonged to the Convent of Westminster. Inigo Jones built the church and formed the Piazza. Charles Fowler, according to the excellent account written by my friend Mr. Stratton for the "Architectural Review," designed the splendid market in the centre



UNIVERSITY COLLEGE, DUBLIN: FAÇADE TO EARLSFORT TERRACE. R. M. BUTLER, F.R.I.B.A., ARCHITECT.

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the Dukes of Bedford. Crutched Friars was a monastery of the Holy Cross. Crooked Lane named; it is short, with two turnings in it.

hill speaks of an ancient corn market. In the Henry V. it became the habitation of frippers, and dealers in old clothes and furniture; in to the Monmouth Street of the eighteenth and the Wardour Street of to-day. Clifford's a house granted by Edward II. to the family of

the Cliffords, and afterwards leased, finally being sold to the students of the law. Charing Cross owes its name to Edward I., who set up a cross in the village to the memory of his Chere Reine. Further explanation is superfluous. The Cockpit, Whitehall, is closely associated with affairs of State. Formerly members of the Privy Council met near here to decide matters regarding the Colonies, general orders in Council being dated from Whitehall, and those relating to the Colonies from the Cockpit. More of this next week.

AERO.

Funerary Art in Switzerland

By W. H. WARD, M.A., F.R.I.B.A.

midst of a wave of memorials to our fallen, and a time when attempts not a few are being made to give the commemoration of our dead generally a more artistic form, it may be of interest to note a symptom of similar preoccupation in another country. Switzerland has been spared the horrors of actual war, but has endured much in the way of war privations and losses. Part of her army has been continually in the field—the whole of it for considerable periods—suffered thousands of casualties directly through the war and indirectly through the increased ravages of the epidemic under the conditions contingent on mobilisation. In few countries were the victims of influenza, of the war, and of the epidemic, relatively so numerous. The war has thus turned naturally towards a more artistic treatment of man's last resting-place, and an interest in "funerary art," such as was held during the war at Lausanne, was a happy inspiration. The exhibition, which was organised by the architect member of the "Société Vaudoise des Ingénieurs et Architectes" in conjunction with "L'Œuvre," an arts and crafts association for French-speaking Switzerland, and under the patronage of the Government of the Canton of Vaud, was held in the Parc de Mon Repos, large grounds recently acquired by the city of Lausanne for the purposes of a public park. All the examples of funerary art in its widest sense were represented—from the lay-out of cemeteries to the design of the monuments, urns and of undertakers' trappings; and a photographic section was included, consisting of drawings, photographs, and actual objects of the work of the

It must be admitted at the outset that the examples of funerary art design were not, as a whole, of a remarkably high order. As might be expected, however, in a country where there is a high average of architectural skill, the schemes for the lay-out of town cemeteries were of considerable ability. Those, for instance, of the cemeteries at Zürich, and Montoie, at Lausanne, were well thought out, being arranged on axial lines, making use of uneven sites, and with provision for the siting of chapels, columbaria, and other important features. In one other respect there was promise, namely, in the tendency manifested in a number of monuments to seek inspiration in traditional types. This was particularly the case in the adoption of various forms of wooden crosses and of other symbols, such as are commonly to be met with in country churchyards, where they are in use to the present day, and varied, often charmingly, according to the taste of the local carpenter. Unfortunately this, however, is not a branch of Swiss design, is sometimes overdone, and over the loathsome trail of Boche art. It is less the case in "Suisse Romande" than in "Suisse Française." Yet Lausanne has succumbed to the Teutonic bludge, and is saddled with a vast nightmare of monuments, the exception of the premises of one German architect has so far to have escaped the disorder. As to its symptoms may interest readers who have been spared personal contact with them.

The general recipe as regards architecture is to adopt a recognised style—usually French!—such as "Louis XIV." or "Empire." The elevations are, as a rule, ably set out, and the general proportions not unsatisfactory. But there the Boche architect's merits end, for he contrives to pervert these promising beginnings by infusing into them the rigidity and self-conscious forcefulness of his kind, the "kolossal" touch of the superman. His ornament and details affect prehistoric ruggedness. He revels in scrollwork, suggestive of entrails or the fetid coils of some foul reptile. But it is in his sculpture that the full noisomeness of the inspiring soul stands fully revealed. The coarsest, most misshapen models are chosen, and their charms are rendered with the rudimentary technique of a child of five or a Maori image-maker, but accompanied by an unwholesomeness of suggestion wholly foreign to the child or the barbarian. Some of the modern exhibits, especially the wooden crosses and head-posts, which are otherwise effective, and might be imitated with advantage, are unfortunately infected with this Teutonic virus.

The very interesting Retrospective Section included specimens of funerary art from the prehistoric and Roman periods to quite recent times. The almost universal practice of Continental cemeteries is to let out grave sites for a term of years, the price of the freehold being prohibitive to moderate purses. A number of monuments are removed every year, and some quite recent ones could thus be re-erected among the trees of the garden. Among them there was little, if anything, of note. Most of them were of the banality too characteristic of the nineteenth century.

But among the older examples exhibited or illustrated many were of great interest. Particularly noticeable were the following: The Croix de Font, Fribourg, a tall well-proportioned stone cross set in a walled enclosure, with a shrine in the rear-wall; the great crucifix of the Cimetière de St. Jean at Fribourg, which stands under a canopy carried on a pair of columns; several wrought-iron grave crosses, especially one about 2 ft. high, with delicate rococo scrollwork, and another about 4 ft. 6 in. high, with floral and foliage decoration cut out of flat sheets, gilded and shaded with red lines, and with a central shuttered picture; the tombs of the Abbesses of Maigrange, slabs in the floor of the chapter house, with their croziers and coats-of-arms carved in high relief; the fine mural tablet of 1691 to Marie de Vallouzy, from Cressier, similar to contemporary English work, with arms above an inscription in good italic lettering; the elaborate rococo mural tablet of 1766 to Ignatius Ramu in the church of Belfaux; finally, the Flaxmanesque monument—an urn on a pedestal—to Harriet Canning, née Raikes, wife of Stratford Canning, British Minister to Switzerland, in Lausanne Cathedral. Enough, in short, was shown to prove that Switzerland is not lacking in good examples, which, when interest has once been roused in that country in the subject of funerary art, may, it is to be hoped, inspire serious designers in their efforts to raise this too long neglected branch above the uninspired level of the monumental tradesman.

A Visit to Sir John Soane

By ARTHUR T. BOLTON, F.S.A., F.R.I.B.A., Curator of the Soane Museum.

ABOUT the year 1811 a widow lady with her son, a boy of about thirteen or fourteen years of age, was calling on Mr. and Mrs. Soane at No. 12, Lincoln's Inn Fields. As they sat talking in the back parlour, a notable vaulted room with a trellis decoration, Soane noticed that the boy was getting bored and,

objects to him of study. The boy, however, was on the man himself; he noticed Soane's sparkling as he talked and pointed out the various objects of interest. A few days before, the boy had been in a more wonderful place, a great round room with a dome like the sky, where crowds of men were assembled



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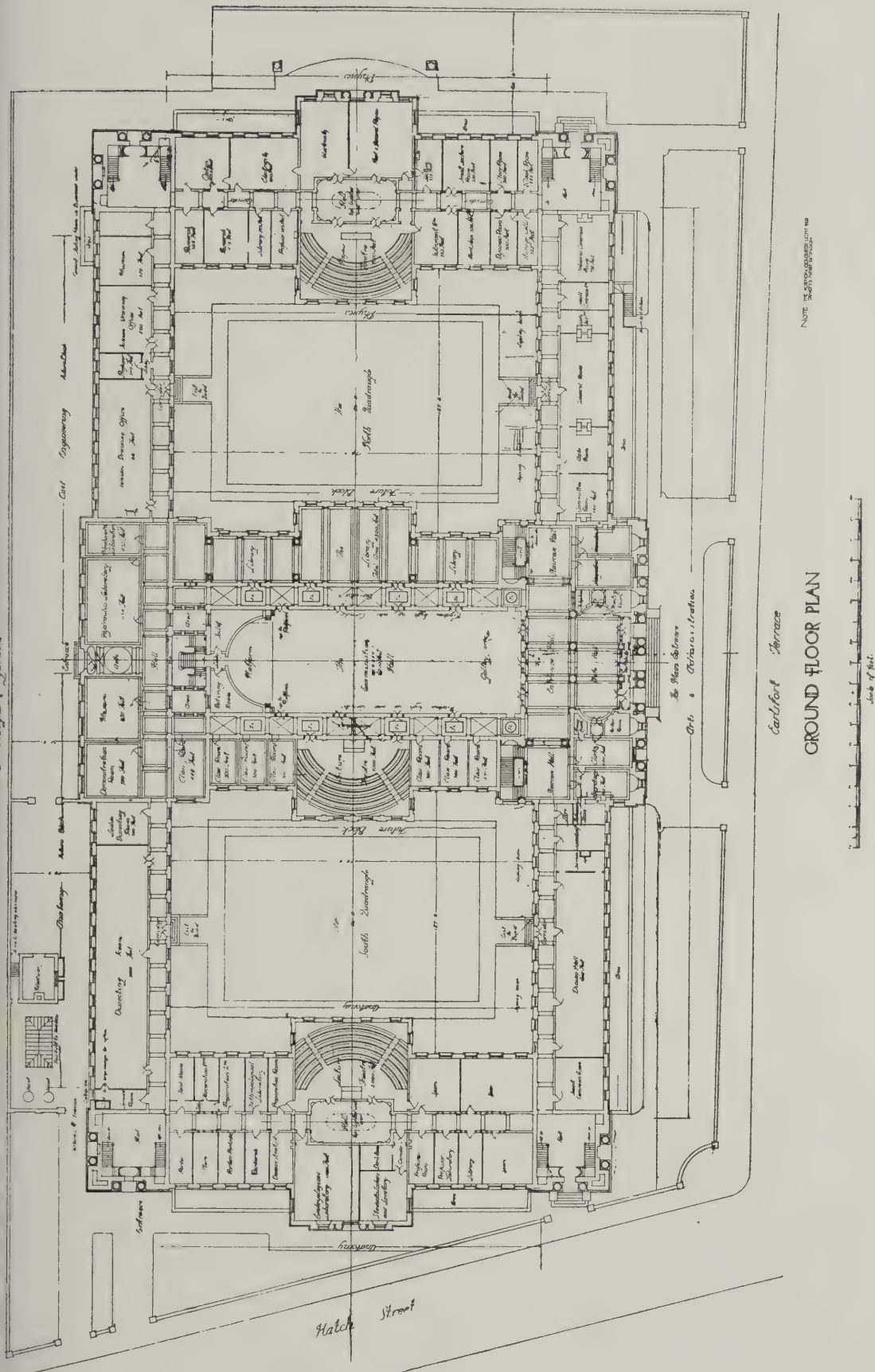


LIBRARY AND DINING ROOM LOOKING NORTH.

taking him by the hand, he led him into a wonderful place that extended below and above and was crammed with objects and fragments of every description.* Soane pointed to some of these, and said they were Roman, while others were Greek, and that all were

shouting at the tops of their voices (the Rotund Bank, then used as a Stock Exchange). He had told that "Mr. Soane had built this place, and that it was worthy of his genius." As, therefore, he now saw Soane's flashing eyes he thought to himself that he had found out what this mysterious thing Genius meant. A year or two later, in the same company, full of

* The present Dome, the first part of the Museum erected 1810 at the back of No. 13, but approached from No. 12 until 1813.



Earlsford Terrace

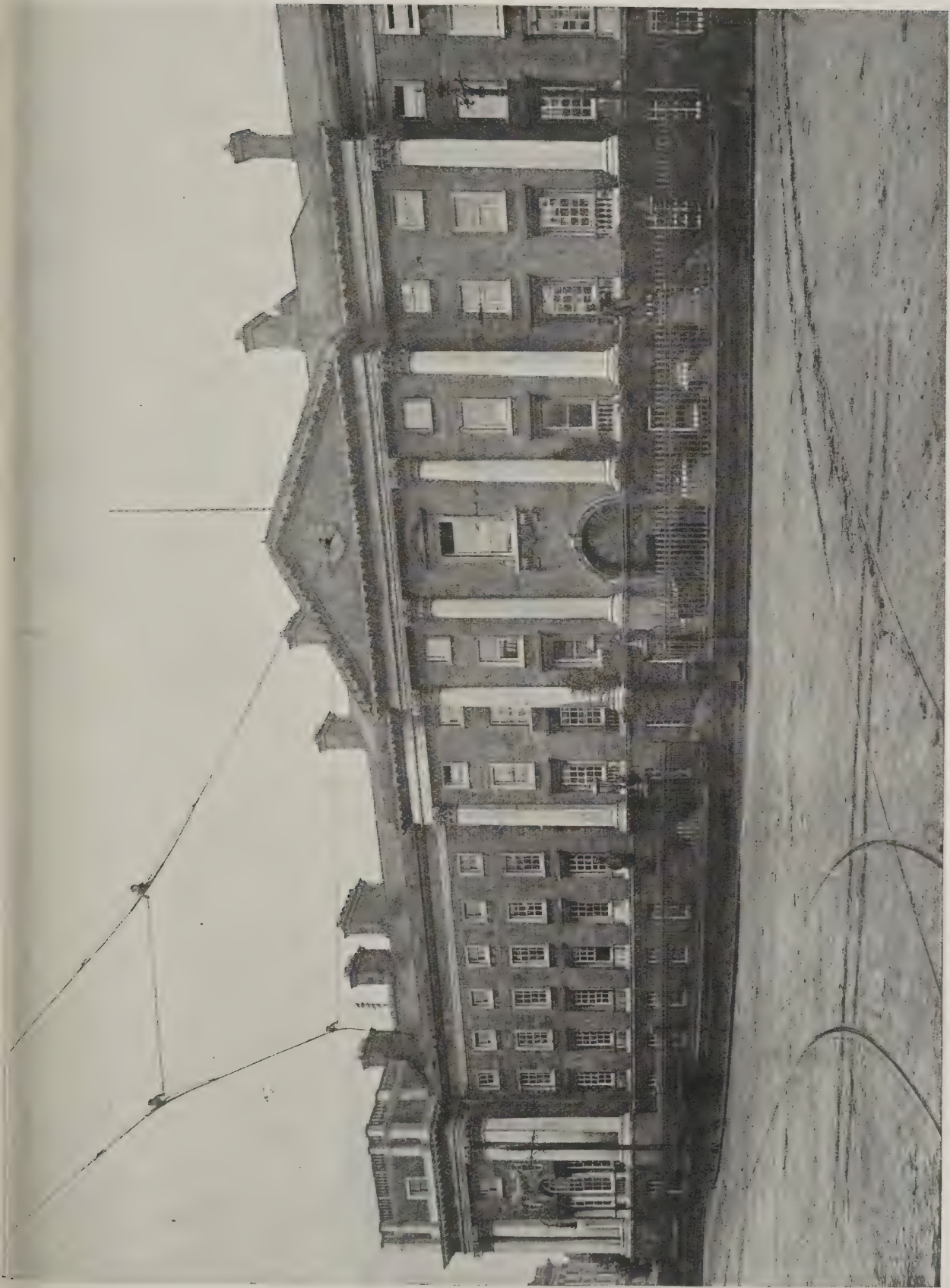
GROUND FLOOR PLAN

NOTE The *Acron-Quoted Unit* and

book of Noel.

UNIVERSITY COLLEGE, DUBLIN: GROUND-FLOOR PLAN. R. M. BUTLER, F.R.I.B.A., ARCHITECT.

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VIEW FROM DRESSING ROOM THROUGH STUDY INTO LIBRARY.



CORRIDOR, SHOWING ARCHITECTURAL CASTS, ETC.

of an eager architectural study, the boy burst out a rough idea of the Italian cottage he would build for his mother. "Bravo, my little fellow," said Soane, "it is better than even feeling the ruling passion strong in death, for it sheds the lustre of enthusiasm over the best moments of existence."

This episode is a key to the character of the founder of the House, Museum, and Library at 13, Lincoln's Inn Fields. Soane began to collect in his earliest days, and brought back casts from his Italian tour (1778-80), and his first house in Lincoln's Inn (1792) was decorated and furnished on lines which ultimately produced his now famous Museum. It was his appointment as Professor of Architecture in the Royal Academy (1793), in succession to his master, George Dance, R.A., which so greatly increased his love of collecting, and definitely associating it with an educational purpose. Soane's house was no place for the idle; the hours were long, seven and eight to eight, summer and winter, and the standard was a high one, while an interview with the architect was apt to be an ordeal. Some of those who remained would probably receive the equivalent of a scholarship to enable them to travel abroad. Basevi's letter returning a gift is a tribute to both master and pupil.

Soane's house is much more than a museum containing so many exhibits. It is out to be a piece of architecture in itself, and to embody it in its best form, associated with sculpture and painting. The architect's

idea is often in miniature, and the visitor is to contribute his share to the imagination of the creator. Many can see this quality in the drawings that Gandy made for Soane, who fail to realise it in the actual buildings. The case is exceptional, and due in part to the circumstances of the time. Soane's youth belonged to the great age before the war, as we should say. When his dreams of a new Houses of Parliament were buried in 1794 and 1800, Soane was, as it were, thrown back upon himself, and, in the absence of great opportunities upon an adequate



HOGARTH ROOM AND VIEW THROUGH MUSEUM ON GROUND FLOOR.



VIEW THROUGH BASEMENT OF MUSEUM.

scale, he is compelled to embody his visions in miniature. His retirement (1833) marks the opening of an epoch to which the revolutionary wars had served as a threshold.

Possibly the photographic illustrations given here will be a revelation to some, who perhaps hardly realised the peculiar mastery of light and shade that is a distinguishing feature in Soane's achievements. He did not wish to show his house on dull and dark days, and most probably not to visitors devoid of imagination. The kindling enthusiasm of his nature was as easily overcast as aroused, and this element of fire was not yet extinct at eighty-four. An old friend who was with him in Sicily in 1780, referring back to their fifty-seven years of friendship, says, "You are still much more the man of those days than I am."

One is reminded of Sarah Bernhardt's reply to Ellen Terry, "You and I will never be old." Imagine the old man of eighty-two writing his "Description of the House" (1835). The first Curator, George Bailey, who had been with him for about thirty years, was his amanuensis. Soane himself had nearly gone blind some ten years before, but he had carried on. His portrait by Lawrence (1829) shows with its natural aspect of geniality, so a great physician remarked, "a suffering face." The "Description" finished, Soane turned his attention to "Memoirs," and with very little more time and encouragement would probably have next undertaken the publishing of his "Lectures on Architecture," which ran to twelve volumes folio in MS. Truth to tell, these last are not much loss; it was the lecturer that mattered, the incidental flash of his mind and the impress of his enthusiasm that aroused and held his audience. Obviously the ideal home of such a man could be no ordinary dwelling.

(To be continued.)

[With Mr. Bolton's next article a further interesting series of photographic views of the Soane museum will be given.]

The Plates Described

John Cross's Almshouses, Ampthill.

IT is a curious fact that many fine specimens of seventeenth-century building remain to be discovered, some within easy reach of the metropolis. John Cross's Almshouses in the Little Park at Ampthill offer evidence of the wealth still at the disposal of architects and those who have an understanding of what constitutes taste. In this exquisitely proportioned façade the effect of spaciousness without ostentation is gained economically. The brickwork is the best of the kind; the windows suggest a study of Vingon designs, the cornice is generous, and the pedimental centre appropriate. Removed from the town of Ampthill, and hidden from the public road to the station, the natural setting increases the charm. The front garden retains the formal patterning of Dutch William's time. The slender trees and delicate foliage make a kindly diaphanous screen, and enhance the welcoming atmosphere of the advanced wings. Accommodation is provided for nine men and four women; there is a tiny chapel in the centre. This building was vested by the founder's trustees, members of the University of Oxford. According to old accounts, each inmate received £20 annually, the Reader having £5 extra for his services.

University College, Dublin.

That portion of the new buildings of University College in Earlsfort Terrace, Dublin, which has been completed, is known as blocks "A," "B," "C," and "D," and accommodates the Departments of Experimental Physics and of Chemistry, Arts, and Administration. The other faculties of the University are accommodated in the old buildings on the site and elsewhere.

The scheme for providing new buildings was initiated in 1912, and competitive designs invited, Mr. Henry Hare, F.R.I.B.A., London, being appointed as architect. The design selected has been completed in part, but, however, considerable modification, and the buildings are now occupied.

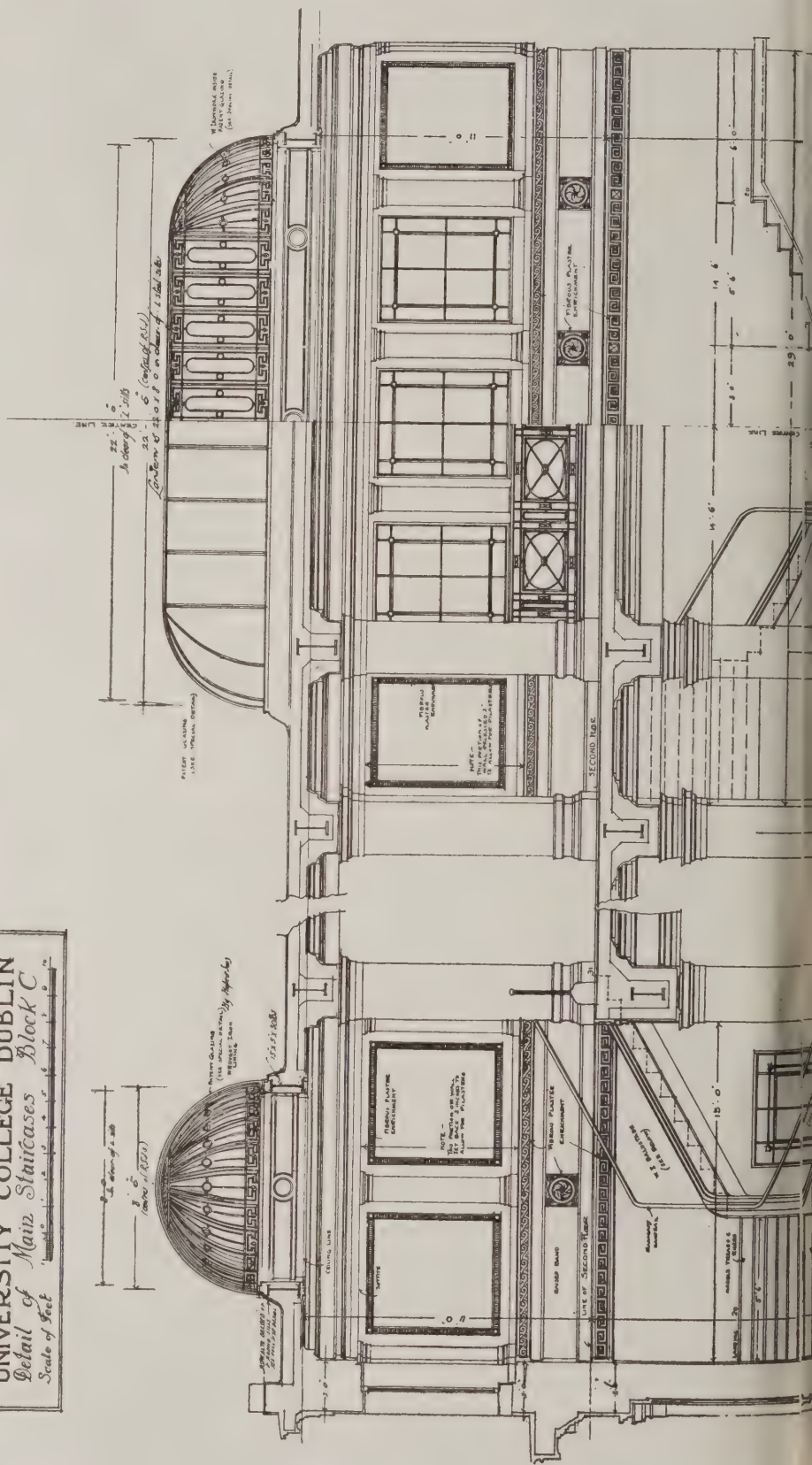
The site consisted of the old Royal University of Ireland, which was not originally built for educational purposes, but for the Dublin Exhibition of 1872. The Exhibition was originated by Sir Arthur Guinness (afterwards Viscount Ardilaun) and his brother Edward Cecil Guinness, Esq. (afterwards Earl Iveagh) and contained a Manufacturers' Department, a Museum, and National Portrait Gallery. It was acquired in 1880 by the Government on the passing of the Letters Patent establishing the Royal University. In 1884 was added to; the additional buildings were designed by the architectural staff of the Board of Works, Sir George Moyers being the contractor. When the Royal University was acquired by University College as a result of the Irish Universities Act of 1906, it was apparent that the buildings were entirely inadequate for the requirements of the college, and in many respects wholly unsuitable for modern educational purposes; the site itself was irregular in shape and altogether restricted to permit of suitable or sufficient accommodation being provided. At this juncture two additional plots of ground were very generously presented to the college by Edward Cecil, first Earl Iveagh, LL.D., K.P., K.C.V.O. The site was thereby enlarged and rendered somewhat more suitable for the erection of new buildings.

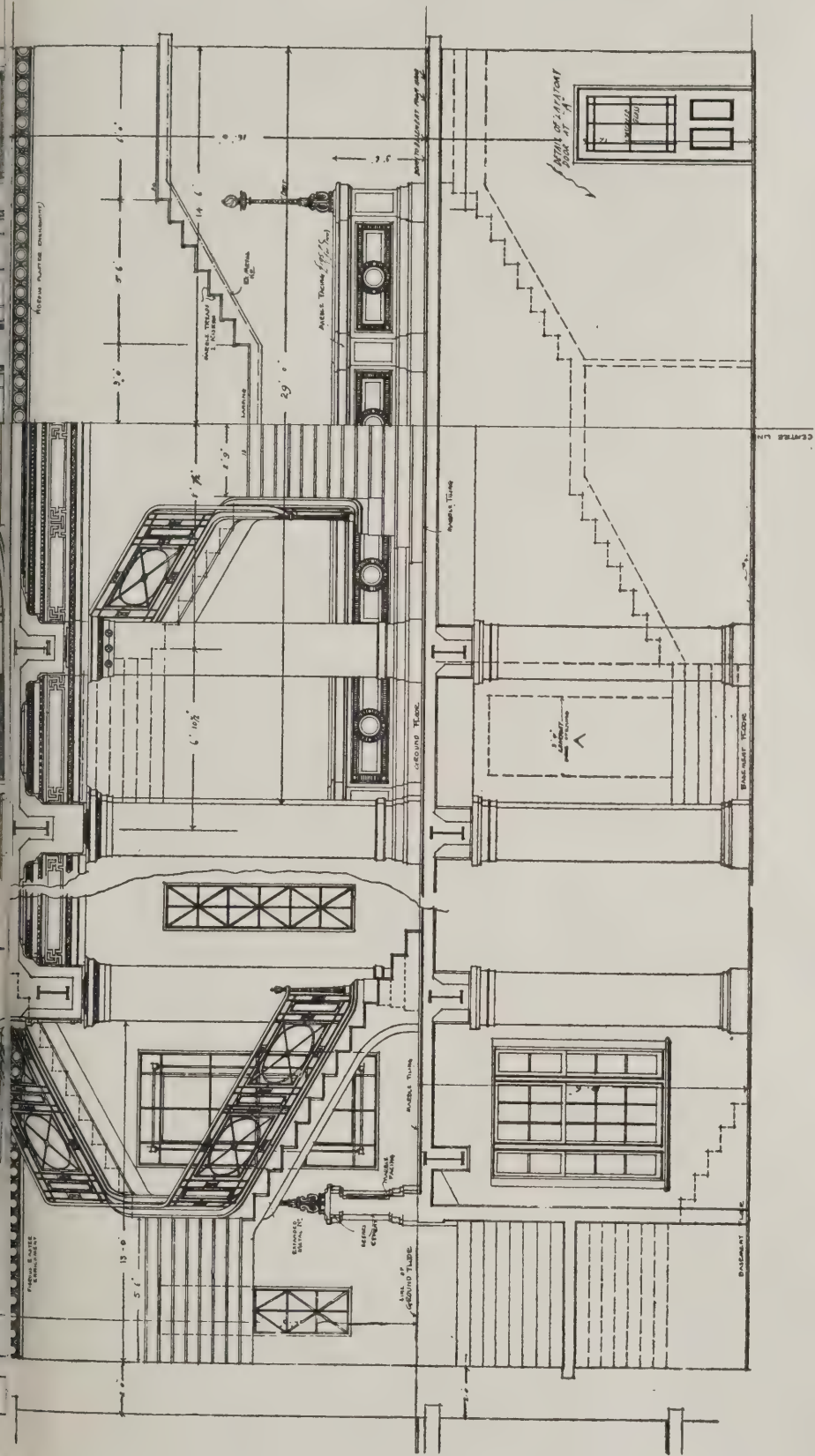
Tenders having been in due course invited, a contract was let to Messrs. G. and T. Crampton, building contractors, Dublin, and work was begun in April, 1911, completed last month. The original scheme provided for the ultimate removal of all the old buildings and the erection of an entirely new college.

The complete design consists of groups of buildings planned on simple and axial lines around two central quadrangles, with the principal façade to Earlsfort Terrace. Owing to the limited funds available it became necessary to divide the project into sections.

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UNIVERSITY COLLEGE DUBLIN
Detail of Main Staircases Block C
Scale of Feet





UNIVERSITY COLLEGE, DUBLIN: DETAILS OF MAIN STAIRCASES, BLOCK C.
R. M. BUTLER, F.R.I.B.A., ARCHITECT.

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are now finished forming the recent contract. It is of the entire main façade to Earlsfort Terrace, the Physics and Chemistry Building facing Stephen's Green, forming together an L-shaped certain of the old buildings will be retained pending carrying out of other sections. (Further particular additional illustrations, will be given next

Trinity College, Dublin.

Interesting to note from this view of Chambers's collegiate building how ably Mr. R. M. Butler has in his great new university block, illustrated in the feeling of the old work amid which it

New Dublin Factory.

New factory which is being built for Messrs. and Co., at Henry Place, Dublin, consists of basement and three floors. The structure has been designed in reinforced concrete on known system, and the external walls are finished in cement rough-cast, with a central entrance in cut stone. Messrs. Moore, Keefe, and Robinson, MM.S.A., of O'Connell Street, Dublin, are the architects, and builders are Messrs. J. and R. Thompson, Ltd., High Avenue, Fairview, Dublin.

T. Sumner Smith and Concise Costing for Housing

have much pleasure in announcing that we have secured from Mr. T. Sumner Smith (whose portrait appears below) an important series of "Concise Costing for Housing," the first of which is given on the following page. The articles are the result of many years of wide and varied experience in all branches of the building industry, gained in all parts of the country; and we are confident that the standard system of costing advocated by Mr. Smith has been adopted in place of the many and confusing systems at present in force it is bound to be of very considerable benefit to the building industry.

Mr. Smith has been in practice as a building and quantity surveyor at 25, Cross Street, Manchester, for over twelve years, and has carried out many public and private works. He has had a thorough training in architecture and civil and mechanical engineering; and as a specialist in quantity surveying, he is in the position of being able to take an all-round view of the subject. Further, his system for organisation in the building industry is one that has stood the test of actual practice with complete success; and it is this success that has led to the writing of the present articles at a time when the most urgent needs is for cottage-building on economical lines.

What follows is a synopsis of the articles as they will appear in the Journal. It will be seen from their concise character and scope that they cover a wide field and should be of interest alike to architects, engineers, builders, and to all who are engaged in the building industry, not to mention members of housing committees and the public generally.

SYNOPSIS OF ARTICLES.

Bills of Quantities.

of ordinary bills of quantities; schedule of costs of cottages given in percentage of cost and value per £; lack of a standard method of taking quantities; estimating on ordinary bills of quantities arising therefrom; simplicity of estimating on bills of scientific quantities, based on the recommendations of Tudor Walter's report; typical example of practical and scientific bills of quantities; and in ordering goods and checking accounts, and the way with which contracts may be squared up and

adjusted by their adoption; schedule of relative value in cost of labour and materials for cottages, as example: Labour for "bricklayer" was 17.26 per cent. of the total cost, equal to 3s. 5½d. in the £, and materials 13.16 per cent. of the total cost, equal to 2s. 7½d. in the £, for cottages erected at Mancot Royal, near Chester.

How Builders' "Profit" Should be Calculated. Scientific Costing.

Cost of clerical work negligible when compared with its advantages; fosters up-to-date methods, good management and efficient organisation.

Economical Building.

Detailed schedule and values of materials employed in the construction of cottages; how saving in cost may be effected; detailed schedule and values of labour employed in the construction of cottages; comparisons for estimating; forms for tabulating data for use in estimating; relative values of methods of haulage of goods.

Economy in Design.

Tables showing relative values based on cubical contents, gross area and net area of accommodation; fallacy of using a uniform price per cubic foot in arriving at approximate estimates for cottages; the cheapest cottage is not always the one with the least cubical contents; practical examples; accommodation a determining factor; illustrations of cottages.

Economical Contracts.

"Bad" contracts are costly to all parties; defects of "lump-sum" contracts; deficiencies and excesses in bills of quantities which do not "form part of the contract"; responsibility of builder; bills of quantities which do not form part of the contract valueless at law; form of contract issued by the Board of Agriculture; detailed analysis; fixed builder's "profit" and what this "profit" constitutes; right of "power" divided between architect and employer, and its abuses; the meaning of this contract; (1) profit, in addition to (2) actual and ascertained net cost of materials delivered on site; and (3) labour employed in the erection of the works; builder's "profit" estimated on his turnover, based on capital outlay.



MR. T. SUMNER SMITH.

Concise Costing for Housing, Based on an Improved System of Quantity Surveying*

By T. SUMNER SMITH, M.Q.S.A., F.I.A.

THERE is a great need at the present time for a more practical and scientific method of "taking off" bills of quantities, especially with regard to houses. The chief aim of bills of quantities are to obtain competitive tenders upon a uniform basis, and to form a schedule of prices for the adjustment of variations on the contract. Amongst the defects of the present system are the following: 1. There is no standardised method. 2. They only partially succeed in their object. 3. They serve no practical purpose. 4. They are unscientific. 5. They add unnecessary cost to the building. 6. As a schedule of prices they are unsatisfactory. These defects are all remediable by practical and scientific bills of quantities which it will be my endeavour to show are essential, and form a most valuable and useful document. Tudor Walter's Report, Cd. 9191, paragraph 339, strongly recommends the adoption of a different method of obtaining quantities for houses than those at present in vogue. They state "We believe that it would be found advantageous that the quantities of materials should be very carefully taken out, and given largely in the form in which those materials would require to be ordered, rather than in the ordinary method adopted in bills of quantities."

Since the whole subject hinges on the cost of cottage-building I give, by way of illustration, the following relative values of the various items which make up the cost of cottage-building, and which are taken from carefully ascertained data of

the actual cost of cottages erected at Mancot Royal, Queensferry, near Chester, to the designs and under the direction of Mr. Raymond Unwin, F.R.I.B.A. The work was carried out by Messrs. John Mayers, Sons and Co., Ltd., contractors, Chester, to whom I am indebted for many courtesies and assistance.

This schedule does not take into account contractor's profit, architect's and surveyor's fees, cost of land, cost of transfer and negotiation of land, nor does it take into account the cost of road making, sewers, paths and fencing. Data from which the above schedule has been tabulated is practically all that is necessary to estimate the cost of cottages from practical and scientific bills of quantities.

No Standard Method.

An examination of the present system reveals three principal methods of "taking off" quantities, but there are also various other local customs. Taking the item of common brickwork we have:

London Method:

Rods: common brickwork set in lime mortar. (1 rod = 272 ft. suppl. 1½ brick thick.)

East Yorkshire Method.

Roods: common brickwork set in lime mortar. (1 Rood = 63 yds. suppl. 1 brick thick.)

Manchester and Northern Method.

Yards suppl: common brickwork set in lime mortar reduced to brick thick.

Here we have three different terms used in expressing the same thing; but common

to all these are three factors: (1) bricks, (2) lime mortar, and (3) labour.

Estimating.

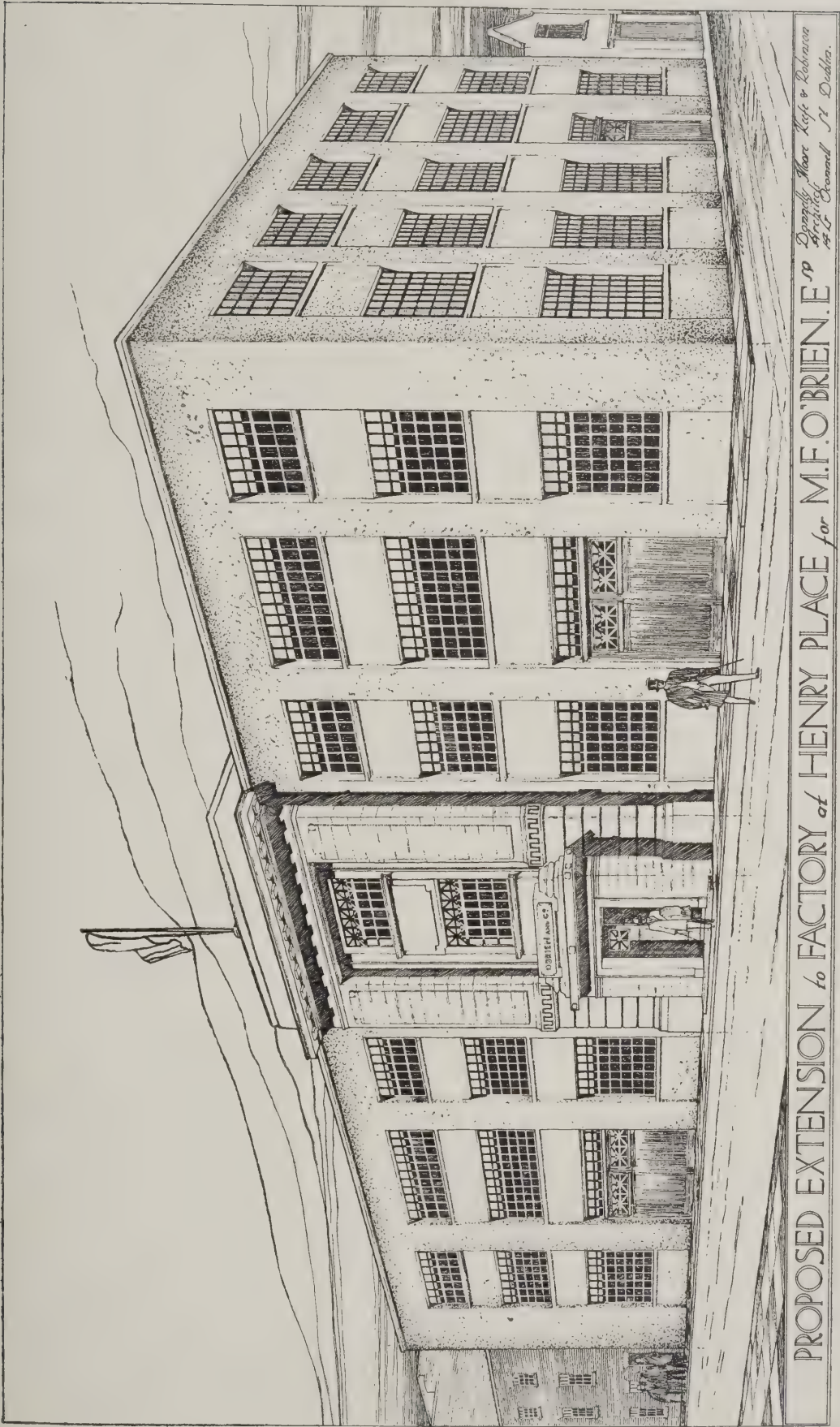
To price the item within a reasonable degree of accuracy by either of the methods it is necessary to ascertain the value of each factor. To do this, further and numerous calculations are necessary. The terms or denominations in which the quantities are expressed are foreign to the terms of sale and purchase of materials. Rods or yards suppl. are not synonymous with thousands or tons. Second, the quantities are not the same quantities of bricks, lime and sand (and ashes in mill-ground mortar) in either a rod or yard suppl., nor are they all based on the same standard of measure. There are various kinds of labour in value employed in the setting of a rod or yard suppl. of brickwork. The estimate of each must be made. In other particulars as outlined in the schedule of costs will have to be taken into consideration in arriving at the value. There is no recognised standard method to carry out these calculations, and or no data to work upon, the estimate must be a large amount of guesswork, and this is sufficient to make the estimating, and it will be obvious on this account it is questionable whether close tendering is possible.

From the analysis, on page 605, the method of arriving at the cost of a rod or yard suppl. of common brickwork will be apparent that there must be an element of speculation in pricing of quantities on the present system. Beginning with the analysis of a rod comprising a rod, rod or yard suppl. of brickwork; these are bricks, lime mortar (and ashes in mill-ground mortar) and water. The first thing to be done is to ascertain the number of bricks required, the quantity of lime and sand (and ashes in mill-ground mortar) in weight, and the amount of water in gallons it will take to a rod, rod or yard suppl., as these measures that these quantities are bought. To convert these measures into the terms of rods, roods or yards suppl. is not simple, and the method varies according to circumstances. The size of bricks, the proportion of sand and lime (and ashes, etc., in mill-ground mortar) and the thickness of the mortar are factors governing these calculations. Again, the quality of bricks must be taken into consideration as there are breakages and waste with some more than with others.

In estimating the labour spent on a rod, rood or yard suppl. of brickwork is faced with a difficult problem. Labour is invariably paid for by an hourly or weekly wage for so many hours. Not only must the time be ascertained that it would take a workman to do a specified task, but this must be reduced to the term in value of either rod or yard suppl. This is a roundabout, cumbersome, intricate and unscientific factory method, and for this reason

Item.	Schedule of Costs.	Percentage of Costs.	Ratio in approximate value in £.		
			£.	s.	d.
1.	Materials.	34.00		6	9½
2.	Carriage on Goods.	3.29			8
3.	Haulage (all costs.)	4.86			11½
4.	Power:—				
	(a) Woodworking.	4.84			
	(b) Mortar Mill.	.09			
	(c) Stone Cusher.	.07			
		5.00		1	0
5.	Wages:—				
	(a) Nett Wages.	32.83			
	(b) Overtime.	3.79			
	(c) Increase in Wages.	2.73			
	(d) Railway Fares.	2.26			
	(e) War Bonuses, etc.	2.53			
	(f) Lost Time, Raining Off, Bad Light, and Frost.	1.27			
		45.41		9	1
6.	Insurance:—				
	(a) Workman's Compensation.	1.16			
	(b) Unemployment.	.28			
	(c) Health.	.36			
	(d) Third Party Risk.	.04			
	(e) Fire, etc.	.08			
		1.92			4½
7.	Plant:—				
	(a) Rental Value.	.46			
	(b) Consumable Plant and Repairs.	.34			
	(c) Depreciation and Loss.	.07			
		.87			2
8.	Water.	.15			½
9.	Temporary Heating and Lighting:—				
	(a) Coal.	.06			
	(b) Coke.	.03			
	(c) Oil, etc.	.06			
		.15			½
10.	Sheds:—				
	(a) Stores.	.18			
	(b) Mess Huts.	.12			
	(c) Latrines.	.07			
	(d) Offices, etc.	.26			
		.63			1½
11.	Stationery, Postages, Telephones, etc.	.35			1
12.	Rent, Rates, Taxes, and Establishment Costs.	.41			1
13.	Staff Salaries, etc.	2.96			7
	TOTAL	100%	1	0	0

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Materials.	Rate.	£	s.	d.
Bricks to a Rod, Rood or Yard Supl. (including allowance for breakages and waste) At per thous.				
Carriage	" "			
Haulage	" "			
Lime unslaked at per ton				
Carriage	" "			
Haulage	" "			
Sand	" "			
Carriage	" "			
Haulage	" "			
And for mill-ground mortar :				
Ashes at per ton				
Carriage	" "			
Haulage	" "			
Gallons of Water at per thous. galls.				
Gallons of Water, soaking bricks during dry weather at per thous. galls.				
TOTAL cost of Materials				

by the present system of bills of quantities does not exactly meet the case in a scientific and practical manner. There are several kinds of labour which differ in value as the rate paid vary to the different trades, and if mill-ground mortar is used, to these must be added the cost of the engine tender for an oil or steam engine, and in the case of a steam engine, the stoker or boiler maker's time.

It is so unreliable as an estimate of time. This is unquestionably the most difficult of all to calculate. It is safe to say that in many cases the pricing of labour is mere guesswork—rule of thumb. In some cases it is founded on the assumption that a man can do so and so work in so much time, and in others worked out from an insufficient data culled from experience. Very often a blind reliance is placed in this data, which is rarely checked with more recent prices, and rarely any attempt is made to keep it up to date. It is an accepted fact that labour is only estimated to within 25% of accuracy, 25% being of a very variable character. This is by far too large a margin for any hope of obtaining competitive tenders. The present system of bills of quantities neither encourages nor fosters a proper system of estimating, nor does it lend itself to the use of contractors of a method of obtaining valuable comparative data. Consequently all concerned in estimating very much "in the dark." Labour in table form we have:

Labour.	Per Hour.	£	s.	d.
hrs. Labourers slaking lime at				
hrs. Mixing mortar and delivering to position at				
hrs. Bricklayers setting bricks at				
hrs. Bricklayer's Labourer at				
And for mill-ground mortar :				
hrs. Engine tender at				
TOTAL cost of Labour				

important I shall give the rest of the particulars in table form without comment.

Plant, etc.	Rate.	£	s.	d.
Lighting and Protection.				
TOTAL cost "General."				
Working Expenses.	Rate.	£	s.	d.
Postages, etc.				
Travelling, Taxes, and Establishment Costs.				
TOTAL cost "Expenses."				
CONTRACTOR'S PROFIT £				

th we have only dealt with one item, it can be seen what a cumbersome business it is to price the items in a set of bills of quantities. How much this could be

simplified by practical and scientific bills of quantities will be demonstrated later. Numerous other examples could be given to show the lack of any standard method, and that the present method leaves too much to rule of thumb and speculation in estimating, to be of any value for keen competitive tendering, often resulting in the one making the greatest blunder securing the work. Speculation in estimating is unfair to the other contractors, and there is always this element to be taken into consideration when obtaining tenders. A judicious selection of contractors has, therefore, to be made to avoid this as far as possible. It is no uncommon thing for contractors to refuse to tender when the competing parties are not of equal status and standing. The best contractors do not care to be brought down to the level of those who may have to make good by other means their deficiencies in estimating—scamping work for instance—besides bringing down the value of the work below its true value. Nothing can be said in favour of the present system nor is it good for the building industry, resulting as it must do in cut-throat competition, cutting down of prices, cutting down of wages with its attendant disputes with workmen, and an inevitable outcrop of failures. This is not the kind of competition desired; it is a suicidal policy. This practice should be discouraged and its place taken by competition on efficiency—production. The present system also serves no practical purpose to the contractor in ordering materials, or checking the cost

the terms in which the materials are purchased, and the actual or working quantities have to be taken out again by the builder. These working quantities are not required with practical and scientific bills of quantities, therefore reducing the cost of the building.

(To be continued.)

R.I.B.A. INAUGURAL MEETING DISCUSSION.

The inaugural meeting of the session 1919-20 of the Royal Institute of British Architects was held at 9, Conduit Street, W., on November 4, when a large and distinguished gathering assembled to hear the presidential address of Mr. John W. Simpson. The large gallery in which the meeting was held was filled to overflowing.

The following message was read from the King:

"I am commanded to thank you, the Council, and members of the Royal Institute of British Architects, for the message of loyalty you have addressed to the King, your patron, on the occasion of the inaugural meeting of your first session since the termination of the war. I am to assure you of His Majesty's abiding interest in the activities of the Institute in all its various branches. The King feels confident that the members of the architectural profession will do full justice to the greatest possibilities which rest upon them in the nation's work of reconstruction."

Mr. John W. Simpson, P.R.I.B.A., then delivered his address, a full report of which appeared in our last issue. A vote of thanks was proposed to Mr. Simpson by the American Ambassador, Mr. J. W. Davis. Few architects, he said, retired upon their earnings or left fortunes behind them, but they managed to escape both extreme poverty and great riches. There were three designations which might be attributed to the architect, the reasons for which were embodied in the President's speech. First, he was the true historian of the world, for his imperishable works were the language by which one age conveyed its message to the age which came after it. The architect was also a statesman and a diplomat, who spoke the universal language, which needed no text-book, grammar, or dictionary. He had much pleasure in seconding the vote of thanks.

Sir Aston Webb, who seconded the motion, said he would like to congratulate Mr. Simpson on the position he saw him holding that night. They were none of them unmindful of what Mr. Simpson had done, and he thought his name was nearly as well known in France as it was in England. The two things necessary to influence for good the architecture of the future were architectural and general education. He hoped it would now be proved to the governing bodies that those who practised architecture could devote great services to the State, and were willing to do so regardless of emoluments to themselves. Sir Aston Webb, in expressing appreciation of the visit of the American Ambassador to their meeting, made reference to the lamentable illness of the American President, and said he hoped that Mr. Davis would convey their earnest wish for the President's speedy recovery.

The vote of thanks to Mr. Simpson was then carried amidst enthusiastic applause, and the meeting terminated with a brief reply by the President.

(For Editorial comment see page 586.)

CORRESPONDENCE.

Architectural Students' Union, Cardiff.

SIRS,—A meeting was held at the rooms of the South Wales Institute of Architects on the 31st ult., when it was decided by the assistants and students present to form a Cardiff Architectural Students' Union, and a small executive committee was appointed consisting of the following: Chairman, Mr. Walter C. Cooper; secretary, Mr. Colin L. Jones; treasurer, Mr. C. F. Jones; members, Mr. N. M. Edwards, Mr. Enoch Williams, Mr. Edward Williams, and Mr. Gordon Griffiths. The formation of this union and the keenness shown by the members present augur well for the future of architecture in Cardiff, and it is to be hoped that similar students' unions will be formed in the various other centres throughout South Wales. A designing club is to be formed, and a series of lectures, and visits to important buildings are being arranged. This movement is one in which every young architect should take an interest, not only because of the immediate value to him in his training, but also for the future value to him when he starts practising as an architect on his own account.

IVOR P. JONES,

President of the South Wales
Institute of Architects.

London Building Act, 1894: Cost of Party Walls.

SIRS,—We venture to ask you to publish the award of Mr. W. E. Riley, late superintending architect to the London County Council, on a matter which largely affects all owners of property, and which is incidentally of moment to all architects and surveyors. In dealing with the party wall awards since the armistice architects have been confronted with the difficulty of determining whether the owner of a site upon which he is about to erect a building and proposes to make use of existing party walls shall be compelled to pay to the owner of the existing party walls the cost of the wall at present-day prices, or at the price when the walls were erected. The enormous increase in the cost of building since 1914 has rendered it desirable to have an authoritative opinion for the guidance of property owners and their agents, and this is our excuse for asking for the favour of the publicity of your columns.

C. F. NORMAN, F.R.I.B.A.

J. S. GIBSON, F.R.I.B.A.

Extract from Mr. W. E. Riley's Award, under Part VIII. of the London Building Act, 1894.

"That the Building Owners shall be at liberty, subject to the provisions of Part VIII. of the London Building Act, 1894, at any time and from time to time, to use the whole or any part of the said party wall for the purposes of any proposed new building, upon first making payment to the adjoining owners of a moiety of the costs and expense of the erection of such portion or portions of the said wall as they, the building owners, may so desire to use, such moiety to be ascertained by measurement and valued upon the basis of the actual expense incurred by the adjoining owners at the time the said wall was erected."

The Architects' and Surveyors' Assistants' Professional Union.

SIRS,—Referring to your article on the above Union, published in the Journal of October 29 under "Notes and Comments," I would like to give a short account of the

first recruiting campaign of the Union. The first provincial branch of the Union was formed here in Norwich on October 20, when a large number of local assistants were addressed by Mr. Charles McLachlan, the hon. secretary of the Union. The meeting was characterised by an entire absence of frothy rhetoric, and it was evident by the appreciative reception of the objects of the Union that it supplies a long-felt want. All those present were enrolled as members, and a committee, chairman, and secretary were appointed. As the first provincial recruiting campaign, this meeting goes to prove that the Union is not letting the grass grow under its feet, but is daily becoming stronger in numbers, and whilst recognising no action derogatory to the dignity of a great profession, it is determined to put the status of the assistant on a better footing.

A. T. WRIGHT,

Hon. Secretary, Norfolk and Norwich
Branch, A.S.A.P.U.

WHITECHAPEL HOUSING AND TOWN-PLANNING EXHIBITION.

A housing and town-planning exhibition, organised in conjunction with the Garden Cities and Town-Planning Association, was opened on November 4 at the Whitechapel Art Gallery, and will continue for a month.

Lord Burnham, who presided, said the housing question was the most pressing problem of the moment. There was not a single builder out of employment in the Whitechapel district, but the labour question was an acute one. He regretted that the building trade did not make a wider appeal to the trade unions.

Mrs. S. A. Barnett, who opened the exhibition, said that she had received a letter from the Queen stating that the housing question was constantly in Her Majesty's mind, and that she was interested in the smallest detail of any scheme.

The Exhibition is arranged in a style to appeal to the average non-technical man—or woman—as well as to architects, surveyors, and others whose professional interests are concerned with the housing of the people. It gives examples of the projects of various local authorities under the National Housing scheme, and explains the garden-city principle and shows its applicability to London by means of a series of "satellite towns." It demonstrates what was done during the war in housing at Gretna and Woolwich, and it portrays some of the best of the pre-war housing schemes, such as those of the Hampstead Garden suburb, Earlswick, Port Sunlight, Letchworth, and Welwyn. There is also a foreign and colonial section, as well as some models of American dwellings. Diagrams, supplied by the Town-Planning Association, indicate the nature of their proposals for the development of Tnameside from Barking to Tilbury. A sketch plan shows the area it is proposed to develop in connection with the Welwyn Garden City and the character of the houses, designed on Government models, to be erected. There are thirteen models of houses suggested by the Ministry of Health, and of cottages which are being erected by various county councils for ex-Service men. A selection of fittings, approved by the Ministry of Health, is of a work-saving description.

During the exhibition lectures will be given by several prominent housing and town-planning experts. (See "Coming Events.")

MINISTRY OF HEALTH'S HOUSING SCHEME.

Sir James Carmichael, Director of Housing, Ministry of Health, at the inaugural luncheon of the formed Timber Exchange, held in on November 5, thanked the Trade Federation for the splendid services it had rendered the nation the past six or eight months. The of timber was at a dangerously and the Government decided to the control and leave the merchant again free to go into the markets world to purchase the necessary Thanks to Mr. George H. I. Renton, President of the Exchange, and the great help rendered the Shipping Controller, the position was vastly different now. In May the Committee to prepare a standardisation for the economic construction of houses, and they were told that in its scarcity timber should not be where other materials of equal or less but of equal efficiency could be substituted. To-day the position was so that the erection of even wooden if desired by the local authorities, within the range of practical politics, for this change he tendered the warmest thanks of the Ministry of Health.

But what about the price? The day was about three times that of days. The cost of all building materials had gone up so much, together with labour, that he was afraid the present housing scheme would be unless prices could be kept within reasonable limits. He appealed to them, therefore, to do their utmost to keep as low as they possibly could. Six months ago he set up a Committee to consider the question of economy. It had already approved of twelve or fifteen new methods of cottage construction—absolutely new, but new so far as the laws were concerned. In several there was an entire absence of iron except for joinery purposes; and the firms were prepared to enter into contracts for the erection of such houses in thousands throughout the country, at prices varying from £550 upwards.

He would like to correct a common fallacy that the Ministry of Health approved schemes of £1,000 and £1,200 per cottage. The average approved per cottage up to last week was £700. At the same time, it must be frankly admitted that the supply of houses by the authorities had been very disappointing. Their progress was much too slow. Generally a housing committee was appointed without power, and all questions had referred backwards and forwards, with the result that little or nothing was done. There was a sort of lethargy on the part of some local authorities. There was no incentive to economy on the part of the authorities, who were simply out of touch with the public, much as they could for a penny rate. The result that extravagant schemes could not be approved were put down, and delay was caused by cutting round to see if there was not a more sensible way of getting dwellings erected.

Local authorities might buy as they build houses. To develop that section, builders were consulted, and a Committee was appointed to help the Ministry draw up a working arrangement by which the men who had built 90 per cent of the houses should be encouraged to build more houses and sell them to the local authorities. There was a meeting on Tuesday

stry of Health at which the matter was discussed and an agreement arrived at. These house-builders' were to be utilised. Many of them had developed sites, with roads and sewers laid, and building could be commenced in a very short time. They were the largest consumers of land. Dr. Addison desired that their houses should be used in the scheme of housing that was being put forward by local authorities, and by doing so it was hoped to get 100,000 houses much more quickly than by relying upon the local authorities. Newly-formed Timber Exchange, which will be carried on in the Pillar Hall, Cannon Street Hotel, London, has 500 and 600 members from all over the kingdom, and its president is George H. Lindsey-Renton, who presided at the luncheon.

LOCAL HOUSING REPORT.

Report of housing progress issued by the Ministry of Health states: Number of new schemes submitted to local authorities during the week ended November 1 was 288, bringing the total of schemes submitted by local authorities and public utility societies to 48,500. The number of schemes approved is 23,000. Schemes comprising about 23,000 acres. Schemes representing 3,223 houses were submitted and schemes representing 2,140 houses were approved during the week. The total number of schemes represented in the house-plan now submitted is 46,758, and in schemes approved, 31,101. Applications received during the week from local authorities who propose to build temporary war-service structures for the working-classes. For fifty local authorities have applications for huts or other structures in the case of a few applications, number of huts, etc., required has not been determined. Apart from these, the applications relate to a total of 1,661 huts, in addition to a few other structures. The Ministry and Construction Committee appointed by Dr. Addison have been further special methods and forms of construction. These include forms of concrete blocks or concrete.

of the schemes of local authorities submitted during the week are as follows:

Building Sites.

Schemes Submitted.—The number received from ninety-three local authorities comprising about 950 acres, and the total number of schemes proposed to local authorities to 5,842, comprising about 45,000 acres.

Schemes Approved.—The number of schemes approved was 107, bringing the total number approved to 2,143, comprising about 22,500 acres.

Lay-Outs.

Schemes Submitted.—Eighty-two schemes were submitted by thirty-seven local authorities, bringing the total number of schemes submitted to 1,262.

Schemes Approved.—Sixty-eight schemes were promoted by thirty-five local authorities, were approved, bringing the total number of schemes approved to 722.

House Plans.

Schemes Submitted.—One hundred and twenty schemes and two part schemes, representing 3,215 houses, were submitted.

The total number of schemes submitted represented 42,035 houses.

Schemes Approved.—Fifty-nine schemes, representing 2,110 houses, were approved. The total number of schemes approved represented 30,204 houses.

Conversion of Temporary Buildings.

Up to November 1 fifty local authorities had applied for permission to provide housing accommodation by the conversion of temporary buildings. Conversion had commenced on 142 huts, providing 237 tenements, and 134 tenements are occupied or ready to be occupied.

DR. ADDISON AND THE NATIONAL HOUSING AND TOWN PLANNING COUNCIL.

An important deputation from the joint Committees of the National Housing and Town Planning Council has been received by Dr. Addison to discuss the memorandum and resolutions adopted by the Committees and submitted to the Government. The subjects dealt with by the resolutions included: The adoption of alternative contract systems; delays and difficulties in the supply of building materials; the standards of housing schemes; the financial regulations and administrative procedure after 1927; and the reduction of technical and documentary requirements. The memorandum dealt with (1) the causes of delay in entering upon the actual work of cottage construction and the methods by which more rapid progress can be secured. (2) The possibility that in the later stages of the execution of housing schemes serious delays may arise as a result of a shortage of the supply of building materials and labour available for the purpose of cottage building. (3) The raising of money required for housing schemes.

With regard to the development of a State Building Department and the setting up of building plants by local authorities, the memorandum stated that the tenders at present being sent in are not competitive. It is suggested that model houses might be taken round the country, and that towns should have a housing week to raise the money required for the housing schemes.

Dr. Addison, replying to the deputation, said to arrive at a quick estimate of what ought to be paid for a house they had concluded two agreements with the building trade. The first of these had been made with the Federated Master Builders. In connection with this agreement the Ministry had made lists of districts where plans had been prepared and specifications were advanced, and it was proposed to call the local builders together and invite them to take up the houses between them. It was essential to have a system in which there was a reasonable cost for the house, together with a fair profit, and he would give more profit if the cost were less than the amount allowed. They had also concluded an agreement with the representatives of small house builders, and were inviting them to submit proposals as to the houses they were prepared to build and sell to local authorities. With regard to the plans, they might not be up to the manual regulations, but if they were generally good they would be regarded as acceptable, and the local authorities would be urged by the Ministry of Health to add these houses to their schemes and purchase them on the terms embodied in the agreement arrived at with the house builders.

BUILDING TRADE WAGES.

Questions with regard to rates of wages in the London District, which have arisen between the London District Council of the National Federation of Building Trades Operatives and the London Master Builders and Aircraft Industries Association, have been considered at a meeting in London of the National Board of Conciliation for the Building Trades.

Mr. Ernest J. Brown, past president of the National Federation of Building Trade Employers, of the Institute of Builders, and of the London Master Builders and Aircraft Industries Association, moved: "That, subject to the proviso appended, on and after November 15 next the wages in the London district shall be advanced 2d. per hour; on and after January 3 next a further advance of 1d. per hour shall take place, subject to the present variations in different trades continuing, and on condition that should there be any shortening of hours on May 1, 1920, no difference shall be made in the rates of wages; and also, further, that should an employer wish to engage any of his operatives upon a system of piecework or other system of bonus on output, he shall be at liberty to do so where practicable and in agreement with his operatives, and that a tribunal shall be set up by the Employers' Association and the Operatives' Federation, or those with whom working rule agreements are set up, which shall decide any questions in dispute, in order to avoid the unfair exploitation of the system. Provided always that the minimum rates of wages, plus 10 per cent., shall form the basic rate for piecework. And, further, the above rates shall remain in force for at least twelve months from January 3, 1920, and thereafter, until the cost of living drops to 100 per cent. above pre-war prices."

After the resolution had been seconded, the operatives moved that the question be at once put. This was agreed to, with the result that voting on each side upon the resolution was equal, and no decision was arrived at. A deadlock ensued until by two cross votes the following decision was reached: "That on November 15 next the rates for mechanics and painters shall be raised 2½d. per hour, for labourers 3d. per hour; that on May 1, 1920, a further increase shall be made to every trade of 1d. per hour, the rates thus payable to remain in force for nine months from November 15 next."

By the employers it was further moved and seconded that "Without expressing any opinion upon the merits of the case, it is considered the matter raised by the employers sitting on this board in relation to piecework or bonus on output to be of such importance to the building industry in general that it should be referred to a joint conference of the National Federation of Building Trades Employers and Operatives for consideration with a view to finding some working arrangement, and therefore requests these two bodies to call such conference at an early date." In order that the representatives of the operatives should not by a vote give any opportunity for misunderstanding on the part of their members it was decided they could not support this resolution, and no decision was arrived at.

COMPETITIONS OPEN.

Owing to the abnormal pressure on our space, we are unable to publish this week our list of competitions open. Readers desiring to consult it should refer to page 578 of last week's issue.

QUESTIONS IN PARLIAMENT.

HOUSE OF COMMONS.

Housing Schemes.

On November 4 Sir A. Geddes informed Mr. Haslam (C.L., Newport) that in view of the urgent national importance of keeping down as far as possible the cost of houses for the working classes, he had felt justified in offering to release Government timber and to sell it to local authorities at cost price, and below the current wholesale prices for such timber.

Mr. Kellaway (Parliamentary Secretary, Minister of Munitions) informed Major Prescott (C.U., Tottenham) that the cost of building materials purchased by the Department of Building Materials Supply for the erection of houses under the new Housing Act was approximately £3,000,000.

Quality of London Gas.

Sir A. Geddes, replying on November 4 to Mr. Gilbert (Southwark Central, C.L.), who called attention to the poor quality of gas in the London area, said he was aware that gas undertakings generally were supplying gas of a lower calorific value than that which they supplied before the war. This was being done at the present time with the approval of the Board of Trade, with a view to ensuring an adequate supply to all consumers during the coming winter. He hoped shortly to introduce a Bill giving effect to the recommendations made by the Fuel Research Board in their recent report to the Board of Trade on Gas Standards (which has been published as Command Paper 108), whereby gas will be charged for according to the actual number of heat units supplied to the consumer instead of by volume as at present.

Mr. Gilbert: Can the right hon. gentleman do anything in order to compel the London gas companies to supply gas of the same standard, there being a great difference between the companies which supply the districts north and south of the river?

Sir A. Geddes promised to look into the matter.

Surplus Army Huts.

Colonel Ashley (Fylde, C.U.) complained on November 4 that ex-service men's organisations were refused the concessions granted to housing and educational authorities with respect to the purchase of surplus Army huts.

Mr. Kellaway, Joint Parliamentary Secretary, Ministry of Munitions (Bedford, C.L.), said that the distinction made between the associations of ex-soldiers and local authorities in selling the huts was based on the principle that while the spending of public money by the latter could be controlled, such a power could not be exercised over the former. Besides that, once a concession was made to private persons, the Department would be overwhelmed with similar applications from institutions of all kinds. The Department was endeavouring to realise the vast national property at the fullest possible value. They had already sold war stores to the amount of £100,000,000, and hoped during the current year to make an additional twenty millions. He hoped the House would support the Board in its policy of securing for the taxpayers the greatest possible return in the liquidation of this great national property. At the same time, if his hon. friends would get the organisations together for which they spoke and make a comprehensive demand for their requirements they would not find him unsympathetic.

Luxury Buildings.

Replying to Mr. Gould (U., Cardiff Central), on November 6, who asked if the Minister of Health was aware that it was proposed to build at Cardiff an amusement park and building at a cost of approximately £1,000,000,

Dr. Addison said that the question whether power should be taken to prohibit the erection of luxury buildings was receiving careful consideration, and he hoped to be able to make a further statement at an early date.

TRADE AND CRAFT.

Establishment of British Companies at Trieste.

The Department of Overseas Trade is in receipt of a despatch from His Majesty's Consul-General at Trieste giving information as to the formalities with which British companies must comply to establish themselves at Trieste. It would appear that while Italian legislation has not yet been generally established in the Province of Venetia Giulia and Trieste, in certain cases the Italian Government has decreed immediate application of the Italian law, and it is now applied to foreign companies established in that province. British and other foreign subjects enjoy equal rights with citizens of the country. Firms may be required to enrol in the Register of Commerce kept by the Commercial Court. Joint stock companies must comply with the provisions laid down in the Italian Commercial Code.

Spectacular Flood-Lighting.

A feature of the Glasgow Corporation Peace Day illumination scheme, was the flood-lighting of the municipal buildings by seventy-six B.T.H. floodlight projectors, each containing a 1,000 watt half-watt type lamp. The batteries of the projector units were placed on the roofs of buildings opposite the Town Hall, and were so arranged that the whole façade was uniformly illuminated. Ten of the seventy-six lamps were used for lighting the central tower. This installation is believed to be the first of its kind in this country, there having been no earlier attempt on so large a scale. The Glasgow installation was of a purely temporary nature, but the floodlight projectors are to be retained by the Corporation, and will

be used in the future for a variety of municipal purposes—such as night construction work, fire salvage, street lighting, etc. The floodlight projectors were supplied by the British Thomson-Houston Company, Ltd., of 77, Upper Street, E.C.4.

ENQUIRIES ANSWERED.

Sanitary Fittings.

In our last issue F. W. P. (Scarborough) writes: "Can you tell me the names of makers of 'easy clean' taps, sinks, 'Sanitor' and a type of lavatory called 'Massivus'?"

In reply, Messrs. Mellows and Company, Ltd., of 26, Victoria Street, Westminster, London, S.W., state that they stock the "Massivus" lavatory basin.

French Architectural Journals.

L. H. S. W. (Hull), writes: "Give me the names and addresses of one or two French weekly and monthly architectural journals."

—The principal French architectural journals are "La Construction Moderne" published at 101, Avenue de la République, Paris; and "L'Architecture," published at Rue Danton, Paris. "La Construction Moderne" is an illustrated weekly. "L'Architecture" is not illustrated.

Mastic Recipes.

R. M. G. writes: "Please give me a recipe for a mastic suitable for pointing brickwork, etc."

—There are various recipes for mastic in existence, many plasterers prefer to mix their own. The material formerly used for numerous purposes, which Portland cement is now employed for. The use of mastic is now almost confined to pointing up round window frames—chiefly in Scotland and the north of England. A recipe for Scotch mastic: Fourteen parts of powdered white yellow sandstone, three parts of white one part of litharge. Mix on a hot surface to expel moisture, sift, and gauge with linseed oil, mixed: raw two parts, boiled one part. London mastic is composed of 100 parts powdered stone, fifty parts sand, fifteen parts litharge, fifteen parts red lead sometimes added for extra adhesion. Gauge with raw and boiled linseed oil in equal proportions.



A BATTERY OF B.T.H. FLOODLIGHT PROJECTORS USED TO ILLUMINATE FAÇADE OF GLASGOW MUNICIPAL BUILDING.

Town Development and Housing

Tilbury.

Tilbury has received sanction to erect houses.

Farnborough.

Farnborough Council have decided to build twenty houses of the working-type.

Hinderwell.

Urban District Council have decided the medical officer's housing, and decided upon the provision of workmen's houses.

Heston-Isleworth.

Heston-Isleworth District Council have decided to forward their housing scheme to the Ministry of Health schemes for erection of 1,064 houses at a cost of £100.

Cardiff.

Ministry of Health has approved proposed "lay-out" for 800 new houses, and work on this scheme is to be commenced shortly.

Buckley.

Buckley Urban District Council have decided upon a scheme for the building of 100 houses. For the present they intend to build only fifty houses, these will be completed by March.

Oakworth.

Oakworth District Council have decided arrangements by which about three acres of land have been set apart for housing purposes, and also for provision of allotments, a recreation ground, and small holdings.

Windlesham.

Special Housing Committee of the Windlesham Urban District Council is considering the possibilities of concrete, as also had submitted by various plans of wooden houses which it is thought may meet local requirements and views of the Housing Commissioner for little alteration.

Hendon.

For the erection of thirty-seven houses at Hendon Hill, the Hendon District Council received the approval by the Ministry of Health of the acceptance of a sum of £28,177. For the erection of 244 houses on the Park Road estate, near the Welsh Harp, the tenders range from £178 to £189,996.

Louth.

Louth Town Council have passed a resolution for the erection of fifty houses on 10 acres of land. It was stated that jam and glove factories and electric motor works had recently been established, and agricultural implement firms had been making enquiries as to accommodation.

Sleaford.

Sleaford Town Council at a special meeting decided to forward their housing scheme to the Ministry of Health, providing for fourteen houses as the first instalment and pointing out that if the Cranwell Aerodrome is retained without quarters the scheme will have to be augmented to meet the present great demand for housing accommodation.

Enfield.

Ministry of Health has held a public inquiry into the proposal of the Enfield District Council to include, in the

housing scheme which they have already submitted to the Ministry, a site on the Ridgeway, in the residential part of Enfield. The other sites in the scheme have been formally sanctioned, but approval of this particular site has been refused.

Scottish Garden City Scheme.

Under the auspices of the Scottish Veterans' Garden City Association, a meeting of those interested in the project of erecting four garden city cottages for disabled soldiers belonging to the K.O.S.B. area was held at St. Boswells. It was intimated that the Duke of Buccleuch had granted a site for the purpose opposite St. Boswells Green, and it was decided to proceed with the scheme.

Loughborough.

Loughborough Town Council have been informed by the Housing Sub-Committee that 1,000 houses would be required in the next three years. The Council have a scheme for the erection of 130 houses on a site approved on the Derby Road, and it was decided that the other twenty to make up 150 should be erected on various building sites in the borough.

Basford.

In a report on the housing scheme of the Basford Rural District Council the Housing Committee stated that a number of sites have been inspected and put before the Housing Commissioner for provisional approval. Valuations had also been completed in respect of sites for several parishes, and instructions given for provisional agreements to purchase to be obtained.

Dr. Addison's Housing Plans.

Speaking at the National Liberal Club, Dr. Addison said that so far as the acquisition of land was concerned, 22,000 acres had been acquired, and proposals were in hand for dealing with another 23,000 acres. The laying-out of houses would take time. Complaints had been made that plans for only 27,000 houses had been passed, but the scheme had been so prepared that that number could be multiplied many times. The personnel of the building trade was greatly depleted; 60 per cent. were engaged on repair work, and 30 per cent. on extensions, while only 5 per cent. were unemployed.

Dundee.

Dundee's housing programme, prepared for submission to the Local Government Board, was considered by the Housing and Town Planning Committee of the Town Council. The scheme provides for six thousand new houses and seventy-six temporary timber dwellings. Of the total 540 will be two-roomed houses, 2,660 three-roomed houses, 2,400 four-roomed houses, and 400 five or more roomed houses. The houses are to be erected on nine sites already selected and others to be selected. It is calculated that 1,590 houses will be erected within three years.

Liverpool.

Professor E. W. Hope, medical officer for the city and port of Liverpool, lecturing at the Royal Institute of Public Health, said that Liverpool Council had purchased the whole of the Army huts at Larkhill Camp, numbering 500, and were convert-

ing them into living houses for families. They were providing a living-room, three bedrooms, and a scullery, and attending to the sanitation of the camp on modern principles. In Liverpool there were some wooden houses in as good condition now as when they were built thirty years ago. Where it was available the use of wood might be extended both economically and from the point of view of comfort.

Hemsworth.

In the district covered by the Hemsworth Rural District Council there are twenty-four parishes and some forty odd thousand inhabitants. The parishes extend over a large tract of ground, but owing to their situation in the South Yorkshire coalfield the housing of the ever-increasing population is a most difficult proposition. So acute has the situation become—due undoubtedly to the comparatively new collieries which are dotted all over the area—that the Buildings Schemes Committee of the Rural District Council have got a number of housing schemes in hand which, when completed, will entail a cost of three millions. It is contended that approximately 3,500 are needed in the district.

Income and Expenditure on Housing Scheme.

The Ministry of Health have issued a General Housing Memorandum, No. 13, and a form of statement of estimated annual income and expenditure (D 106). Immediately tenders have been provisionally accepted in connection with a State-aided housing scheme, the statement is to be submitted by local authorities in duplicate to the Housing Commissioner for transmission to the Ministry of Health. The statement asks for information with regard to the estimated income and expenditure to the area and cost of the land, to the loans sanctioned or required for street works, sewers, buildings, fencing, etc., and to the rent, rates and water charges with respect to the scheme for which the tenders have been accepted.

L.C.C. and Direct Labour.

At a meeting of the London County Council the Chairman of the Housing of the Working Classes Committee stated that the Committee had considered the question of building a limited number of cottages on the Old Oak Estate by the direct employment of labour, but it had been decided not to proceed with the work at present. No houses built by the London County Council would be available for letting this year. There had been difficulties with contractors, and it was not to be wondered at in view of the extraordinary difficulties with which contractors were confronted at the present time. The trouble was partly due to the inability to get materials from the Supply Department of the Government, but this had been rectified now. As regards the question of the direct employment of labour, their architect thought that it would prove very costly, involving an expenditure of £2,500 for administrative and executive staffs. In this case only ninety-one cottages were in question. While it might have been worth while to go on with this expenditure if building were to be undertaken on a large scale, it was not advisable for a small experiment like this.

The Week's News from Far and Near

New Concrete Cinema.

A cinema of concrete is to be erected at Nottingham.

London Street Widening

Kingsland Road and Old Street are to be widened at a cost of £280,000.

Swansea War Memorial.

The Swansea Memorial Committee have decided to spend £3,000 on the erection of a cenotaph.

Woolwich War Memorial Hospital.

"Hazelwood," on Shooter's Hill, has been purchased as a site for the Woolwich War Memorial Hospital.

Middlesex War Memorial.

It was decided at a meeting at the Middlesex Guildhall to erect a memorial to all Middlesex men who had fought in the war.

Death of Mr. John S. Alder, F.R.I.B.A.

We regret to announce the death of Mr. John S. Alder, F.R.I.B.A., of 1, Arundel Street, W.C., and 33, Bedford Gardens, W.

Skegness Improvements.

Skegness ratepayers have decided to purchase from the Earl of Scarborough the seashore, marine gardens, sands, pavilion, and pleasure gardens for £15,100.

Willesden By-laws.

The Ministry of Health has informed Willesden Council not to let their by-laws interfere with the erection of buildings for the development of trade.

Charing Cross Station Alterations.

New escalators are under construction at Charing Cross Station, which will relieve to a large extent the present trying congestion at rush hours.

Morecambe Improvements.

Morecambe Town Council are applying to the Ministry of Health for permission to borrow £70,000 for proposed extensions to the promenade and the laying-out of a new park and golf links.

Municipal Offices, Bournemouth.

The Ministry of Health have notified their sanction to the application of the Town Council for powers to borrow £33,000 to secure the Mont Doré building for municipal offices.

Ancient Cross as Memorial.

The Archdeacon of Bath has dedicated the thirteenth-century cross at Newton St. Loe Parish Church, which has been restored, as a memorial to the men of the parish who fell in the war.

Victory House.

Messrs. Trehearne and Norman, of 68, Lincoln's Inn Fields, W.C., are the architects for a new block of buildings to be erected in Kingsway and to be known as "Victory House." Messrs. W. F. Blay, Ltd., of London, are the contractors.

Chatham Kitchener Memorial.

Nearly £5,000 has been subscribed at Chatham towards a fund for building homes for disabled soldiers and sailors. The homes are to form a memorial to Lord Kitchener, the first honorary freeman of the borough.

Grants for Sanatoria.

In a circular addressed to county and county borough councils, the Ministry of Health announces that, with a view to securing the expeditious provision of new suitable accommodation for the treatment of tuberculosis, the Treasury have agreed that capital grants in aid of the provision

of additional sanatorium and hospital accommodation shall in future be made at the rate of £180 per bed, subject to a maximum grant of three-fifths of the total cost.

New Rhyl Cinema.

Subject to approval by the Urban Council of the plans drawn by Mr. Gilbert Smith, architect, of Prestatyn, a new picture theatre is about to be erected at Rhyl. The frontage will be of half-timbered work in the Chester style.

Belgian Inventor's Death.

The death is announced of M. Fourcalt, proprietor of the glass factory of Lodelinsart, one of the principal industrialists of Belgium. M. Fourcalt was the inventor of a machine for the manufacture of glass which revolutionised the industry.

New Cambridge Research Institute.

Mr. P. A. Molteno, of Trinity College, and his wife have offered £30,000 to Cambridge University for the erection and maintenance of a suitable building to be used as an Institute for Parasitological Research in Professor Nuttall's Department of Biology.

Highley Garden Village.

The opening up of the garden village at Highley, Bridgnorth, situated within twenty miles of Birmingham, is to be assisted by the construction of a new bridge over the Severn. The project was approved by the Shropshire County Council at the quarterly meeting at Shrewsbury.

The Great West Road.

The Middlesex County Council has accepted the tender of Mr. John Moffatt, of Manchester, amounting to £356,081, for the construction of the first section of the Great West Road (a length of about three miles), the widening of Syon Lane, Isleworth, and the construction of the new spur road at Busch Corner, Isleworth.

Malvern Stained Glass Restored.

The preservation and restoration of the fifteenth-century glass in Great Malvern Church, which has been going on for the past ten years, has now been completed. The Malvern glass has long been recognised as some of the finest English fifteenth-century work in existence. The forty or more windows, some of great size, were, between about 1450 and 1502 filled with glass.

R.I.B.A. War Exemption for Students.

From the regulations already published, some have thought that these concessions are limited to "students" who were registered before their military service. As this has caused some confusion, it is now laid down that the mere failure to register as a student and pay the fee shall not disqualify, provided the other conditions have been fulfilled—i.e., any candidate who is otherwise eligible, but has not actually been registered as a student, may be so registered at the same time as he applies to have his claims submitted for the special war exemption.

South Wales Institute of Architects.

At a meeting of architects, held at the Royal Institution of South Wales, Swansea, it was unanimously agreed to form a western branch embracing a regional area comprising that part of South Wales west of and including Port Talbot, with its headquarters at Swansea. An Executive Committee was appointed, consisting of

Sir Charles T. Ruthen, Messrs. H. Portsmouth, J. Cook Rees, Thomas G. P. J. Williams, and the honorary secretary, Mr. J. Herbert Jones (C. S. Thon Meager and Jones), to consider matters affecting the constitution and financial position of the branch. Mr. J. Herbert Jones, hon. secretary, will be glad to give any further information to architects residing in the regional area named. Those desiring to become members, Enquiries should be addressed to Salist Chambers, Wind Street, Swansea.

Shakespeare Memorial.

At the meeting of the General Committee of the Shakespeare Memorial, held in London, it was stated that the executive was still determined to realise the object of erecting a theatre in London which should be an adequate memorial to Shakespeare and they had secured a site in Gower Street. £76,839 had been subscribed. Approximately the total receipts were £99,000, and the excess of receipts over expenditure was £82,825. This figure, lessened by £8,293, depreciation in the value of securities. The purchase of a freehold site in Gower Street represented £61,085.

Board of Trade's New Offices.

The Board of Trade are leaving Whitehall Gardens for new offices in George Street. The President, Parliamentary Secretary, permanent secretaries, the Commercial Relations and Trade Department, the Industries and Manufactures Department, the Power Transport and Economic Department, the Meteorological Department, the Legal Department, the Secretariat of the Board of Trade, the "Board of Trade Journal" and the establishment department will form a nucleus that is being transferred. More departments will follow as further accommodation becomes available.

Sites for Battle Memorials.

The Belgian Government have agreed to reserve, as far as possible, sites suitable for British war memorials on the following battle grounds: Boesinghe, Gravenstreek, Zonnebeke, Polygon Wood, Sanctuary Wood, Gheluvelt, Hooze, Hill 60, Nieuw Eglise, Messines, Wytschaete, St. Kemmel, Klein Zillebeke, and Ypres. Negotiations have been opened with France for the reservation of sites at Pozieres, Vimy, Monchy-le-Preux, Arras, and Villers Bretonneux. Appropriate memorial outside the town of Salomon. In Mesopotamia arrangements are being made locally.

Architectural Association of Ireland.

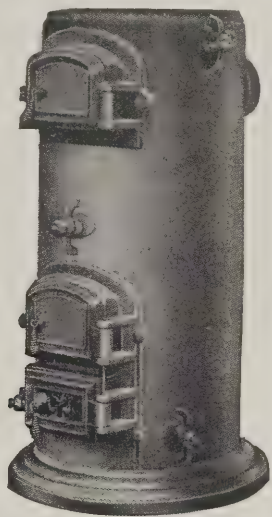
The opening meeting of the 10th session of the Architectural Association of Ireland was held at the offices of the Association at Dublin. Mr. G. B. Beckett, President, presiding. The President, in the course of his address, stated that those interested in the erection and ornamentation of buildings should operate more closely with one another and get into closer touch with the public. In this connection he suggested that a scheme should be formulated for the erection of a central building which various societies could utilise, each having separate rooms and the use of common meeting places. The Committee had decided to hold a competition for suggestive designs in connection with this proposal.

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ELECTRICAL NOTES.

Electrical Development in Holland.

In the latter part of September a deputation from the Institution of Electrical Engineers paid a visit to Holland to see what that country was doing to develop the use of electricity. The Dutch Association of Directors of Electric Power Stations, through the President and the members, acted as the hosts of the British party. A representative of the Department of Overseas Trade was invited to accompany the electrical engineers, who, on arrival at Rotterdam, were met by their Dutch hosts, and by H.M. Commercial Secretary at The Hague.

Holland is seeking to lessen its dependence upon imported coal and oil by the wholesale electrification of industries, and of lighting, heating, and transport services. For example, in Amsterdam the use of electricity for lighting has increased more than tenfold during the period 1904-1918, and for traction and industrial purposes more than thirty-fold. Out of 140,000 buildings in the city 110,000 have already been fitted for electric light. The installation of electricity in the remainder is being pushed forward, and the people of all classes are being encouraged to use electric power for domestic purposes—ironing, toasting, and so on—as well as for light. To meet the expanding requirements of the city a new additional power house has been built, and alongside, a huge refuse destructor, so that steam generated by the combustion of refuse may be used to drive the turbines of the power house. This development in Amsterdam, which is typical of what is taking place in other Dutch cities, suggests that the country will be a large market for domestic electrical appliances of all kinds, as well as for electric-light bulbs and cables. British bulbs will have to meet the stiff competition of the home industry, but for domestic appliances the market is more open, and British cables are already highly esteemed and widely used.

It was observed in most of the power houses which were inspected in Holland that the machinery was almost exclusively of German make. Where not German the plant was Swiss. The absence of British machinery in the newly-equipped power houses is to be attributed partly to the inability of British makers to guarantee delivery, and partly, it would seem, to the fact that recent British progress in the electrical industry is not as yet sufficiently appreciated in Holland. British and German systems of generation, transforming, and transmission cannot economically exist side by side. So that if German or Swiss or possibly American makers are first in the field they will remain in possession when later developments take place. An interlocking system of power centres is contemplated in Holland, under which the plant will tend to become standardised. It is therefore essential that if British manufacturers wish to share in the large Dutch market for electrical plant and appliances they must secure their footing now and not leave the field to be permanently occupied by German, Swiss, or American competitors.

Electricity Supply Bill.

At a meeting of Standing Committee "B" of the House of Commons, who are considering the Electricity (Supply) Bill, Mr. Shortt (Home Secretary) moved an amendment to Clause 12 to give any authorised distributor injured by the generating station being taken by a District Electricity Board the power, within twelve months, to call upon the Electricity Board to purchase the whole of the remaining part of the undertaking. The price to be paid should be what the existing assets cost.

Major Barnes (C.L., Newcastle, E.) moved amendments to give Electricity Boards power to purchase parts of electricity undertakings, other than the generating stations and main transmission lines which the Bill gives power to acquire compulsorily. The amendment would, he said, save the Electricity Boards from having to take over only parts of undertakings which could not pay their way.

Mr. Shortt was prepared to leave to the Committee the decision on Major Barnes's amendments. So far the policy of the Government had been the compulsory acquisition of generating stations and main transmission lines, and no more.

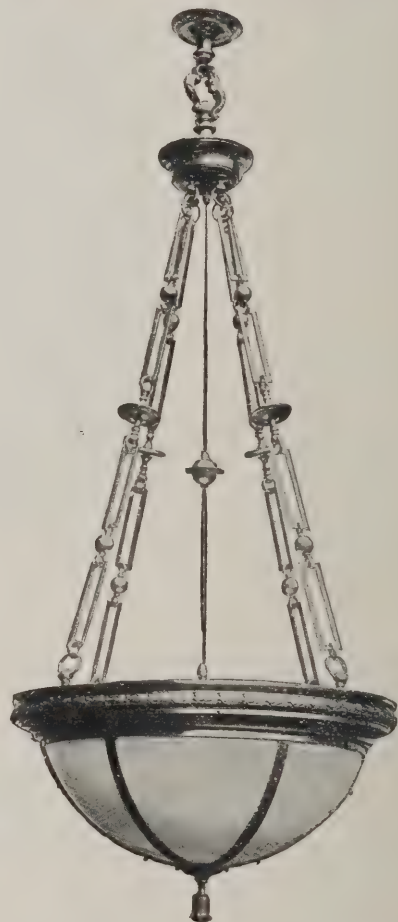
In the discussion it was urged that the matter should be left over until the report stage. The amendment was withdrawn.

On the motion of Lieutenant-Colonel Sir F. Hall (C.U., Dulwich), an amendment was adopted enacting that the Electricity Boards could be called upon to take over the remaining parts of undertakings within two years of the taking over of the generating stations and the main transmission lines.

Mr. T. Thomson (L., Middlesbrough, W.) moved that the price to be paid should be the cost less depreciation. This, he said, would be fair, as the purchases would not be compulsory.

The amendment was defeated, and the Government amendment as amended was agreed to.

Mr. Shortt moved an amendment to Clause 13, so that the undertakings of power companies should be taken over at a fair market value. The amendment was agreed to.

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May, Nov. 19, 1919

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Volume L. No. 1298

THE ARCHITECTS' JOURNAL

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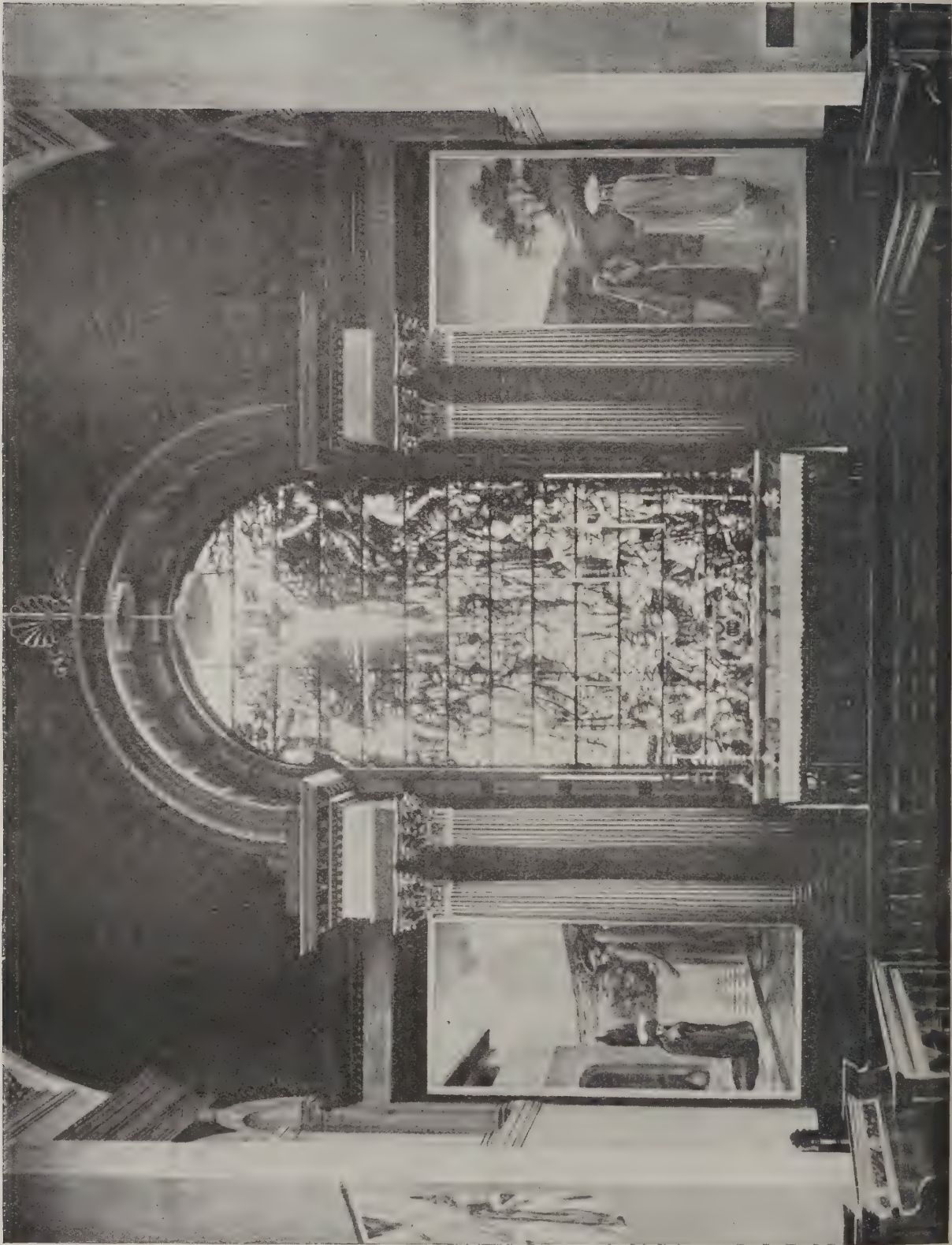
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The Return of the Guilds

such a commonplace, the repetition of history, at one is almost ashamed to commence an article with a reference to that fact. Its insistence, however, is usually manifest, and, in my experience, the last is the movement now going forward in the building industry. The most picturesque feature of medieval times was, perhaps, the Guild system, with its regulations—its relationship between master, apprentice, and journeyman. I seldom enter the City without some recollection of that old rhyme coming to my mind:

Master of Bow Bells, with thy long locks,
For thy late ringing thou shall have knocks;
The answer of the bellman to the turbulent
offices:

Children of Cheep, hold ye all still,
Ye shall have Bow Bells rung at your will.

Little while ago, in the brief holiday that falls to a man who endeavours to combine professional and domestic activities, I spent a day or two wandering through the City visiting the halls of the old companies. Halls, worse luck, in few cases, were as old as the companies, but their present splendour and general air of silence are sufficient to show what degree of gravity and power they occupied in the past. Before the day it would have been difficult to realise the control exercised over the trade and industry of this country by the ancient Guilds. It is easier in these days of rationing and government control, of embargoes and restrictions, to understand something of the meticulousness which in the Middle Ages the activities of men were controlled.

Old centres in this country were, of course, the headquarters of the Guilds. London, York, Newcastle; in all places are still to be found substantial traces of their existence. Their properties in many cases remain, but their power is diminished to a shadow, and the men who assemble at the formal meetings of the Guilds do so for their association more for its sentimental recollection than for its practical purposes. Few people know how much the newer aggregations or populations—such as Birmingham and Leeds, Liverpool and Manchester, owe to that freedom from trade interference which they enjoyed due to the absence of the influence and power of the Guilds from these places.

With the reinforcement and invigoration of population and trade which came with the Renaissance the Guilds were felt to be obstacles in the development of the time. Overruled under their restrictions, and the Free Trader and the free worker sought places where they might escape from their rules. Gradually the Guild organisation, which, in mediæval times seemed one of the most important of institutions, became disorganised and disappeared in the competitive age which followed. The spirit of that competitive age upon the workman, however, the manufacturer, and merchant, has begun to tell its tale and to bring about a combination in these various branches of industry and commerce which

promises to be as strict and as regulative as the Guild system which it displaced. The workman is concerned with his wages, the employer, manufacturer, and merchant with their profits, and all have learned that in a freely competitive system wages tend to find their minimum and profits to disappear. Workmen do not care for minimum wages, others have no love for vanishing profits. All seek a remedy; all find it in organisation and combination.

The building industry, which concerns us most, is no exception to this rule. The free labourer—where is he to be found? After a century of combination the Craft Union, firmly established, has begun to develop into the Industrial Union comprising men of all crafts engaged in the industry. That combination is making itself felt. Hours of labour and wages, differing in the past with as many degrees of difference as there were differences in crafts, are assuming uniformity throughout the country. Labour is effectively organised, and, in my opinion, rightly organised. There is little place for free labour under competitive conditions. The organisation of labour in the building industry has brought about a corresponding organisation amongst employers of labour, an organisation barely a quarter of a century old, and yet now federated more completely than any other employers' federation in the country. Organised first as a means of resistance to what were regarded as the unreasonable demands of organised labour, its view of its purpose has extended, and to-day its action is directed to protect itself not only from unreasonable labour demands but from such injuries as may come from any other quarter. The same progress in combination has taken place amongst manufacturers and merchants of building materials. In a recent report of a committee investigating trusts and combinations, those dealing with building materials occupied a prominent place, the opinion being expressed that the operation of the "ring" in this connection is as effective as, if not more effective than, in any other branch of commerce in the country.

These combinations appear likely to become a super-combination. It would appear that the good feeling existing between the Employers' Federation and the Workmen's Federation in the building trades—a feeling which has expressed itself by the formation of what is perhaps the first National Industrial Council in any great staple industry—is now showing itself in an agreement under which it is said that federated workmen have agreed to work only for federated employers; federated employers in their turn agreeing only to employ federated workmen. There is to be little place left for the free employer or the free workman, and, however one might deplore that condition in an ideal world, it can only be regarded as a natural development of the protective measures which competition has forced upon us. Competition is war, war involved plate armour and massive keeps; it involves to-day armoured cars, tanks, entrenchments—protective measures of all kinds and descriptions.

It is not only the combatants who suffer, but the country over which the war is waged. It has yet to be

seen whether the arrangements and understanding of combinations and federations in the building industry can secure their own proper interests without sacrificing those of the general public.

In that problem the public will exhibit profound interest. Building has become a political issue; in it is wrapped up the fate of Governments. All are agreed in every party that housing is the supreme reform. More houses and still more are demanded. Demand and supply are factors which control the market; price rises with demand and falls with supply. It is unfortunate that demand should synchronise with high prices, and that at a time when more houses are needed it should be least possible to supply them except at abnormal prices. Public feeling will be sensitive to any combination or understanding which threatens to increase an already inflated price. To this sensitiveness the building industry must respond, not only in its own interest, but from a sense of public need. The problem bids fair to become one that will tax the combined wisdom of statesmen, administrators, local authorities, financiers, and crafts-

men. I do not care to dwell upon the disappointment and resentment that will traverse this country if found that the promises to reconstruct and reha the environments of our villages, towns, and cities be fulfilled. It needs be that all sectional in should be submerged in the treatment of the prob a whole. If architects, builders, and workmen wil to look upon this great demand upon their service opportunity for personal enrichment, but will reg rather as an opportunity for public service, the p may be solved, and that happily. The associat the early Guilds, happy in their inception, became long run, tyrannical and abusive of the public int Let the new associations and understandings be upon a wider view. No industry in this countr profit long at the expense of the general comm What is desirable is a fair wage for the workm reasonable profit for the employer, a proper remun for professional services, and, following that, the f amplest, and best production from all.

H. BARN

Notes and Comments

Housing in "the House."

IN the House of Commons last Wednesday, Mr. Bonar Law had to answer some rather awkward questions on housing. Mr. Atkey wanted to know whether an opportunity would be given to discuss the present position of the housing question. Naturally the Minister could do no more than promise that the suggestion would be considered. We trust that a day may be set down for the discussion of a subject that seems to have got into such a desperate tangle from which departmental skill and adroitness cannot fairly be expected to rescue it. Apparently the difficulties of the situation are not even dimly realised by a public that seems quite incompetent to discern the difference between honest zeal for housing and a most unscrupulous determination to injure the Government by fair means or foul. Mr. Bonar Law, questioned by Mr. Billing as to whether "the principal difficulty in regard to housing was not profiteering in building materials," admitted that that was one of the difficulties; but, he added, there were others connected with labour. This sinister admission about profiteering is very serious, and would in itself amply justify giving time for a debate, in course of which many mysteries should be cleared up. We have heard rumours of profiteering rings—rumours so persistent and positive that they can no longer be ignored. All honest builders and builders' merchants are as anxious as we are that the truth or falsity of these allegations shall be at once established, in order that the wrong-doers shall be unmasked and the rest of the trade freed thereby from an odious and undeserved suspicion. We trust that the whole truth, and nothing but the truth, will be unsparingly revealed in the course of the debate. One result of the inquiry, we are confident, would be to show that the dead-set which has been made against the Ministry of Health is entirely a political trick, and therefore wickedly unjust.

The Architects' Assistants' Union.

Our observations a few weeks back on the Architects' Assistants' Union have been strangely and very carelessly misread. A letter which appears in our correspondence columns this week opens thus: "With reference to your editorial comment in your issue of October 29, in which you caution the Architects' Assistants' Union against becoming a first-class nuisance. . . ." We protest emphatically that we did nothing of the kind. We did not caution them against it, but encouraged them in it. If our correspondent will read the paragraph again—this time with some degree of

care—he will find that its whole tone and tendency is an aggressive policy, the implication being that in a rough-and-ready world the surest way for an organisation to get redress for its grievances is to become a first-class nuisance. We wish that it were not so, but cannot the fact that in most cases aggressiveness succeeds where meekness fails. Our advice to the Assistants would be: "Make sure that your cause or your point is worth fighting for, then strike home and strike hard; by all means make yourselves a first-class nuisance to those who deserve the affliction, but do for intelligence sake take care that you are not mistaking a friend for a foe. If our paragraph had not been grossly misunderstood, it should have been thanked for it instead of blamed. We do not care a jot about being blamed; but we do object to being utterly misrepresented through flagrantly careless misreading of our remarks.

What is Criticism?

On two points our correspondent misconceives our position. He seems to think that because the Institute and the Society of Architects have no power to prevent unqualified persons—to wit, our old and over-familiar friends Thomas, Richard, and Henry—from pretending to be architects, therefore we are debarred from counselling the Assistants' Union not to make entrance too easy. There is no need to refute so transparent non-sequitur. Our advice to the Assistants holds good whether that to be at all lax in the matter of admissions will increase the influence of the Union. If our correspondent's plea is that at this early stage the Union cannot afford to be particular, there is no more to be said, except that the Union has our sympathy in this as in most of its matters, and we are astonished to find that our correspondent has chosen to regard a word of friendly advice as an item of hostile criticism—it is not a fair deduction from our remarks. Criticism our correspondent makes the common mistake of supposing to be essentially antagonistic of antagonism; for he says: "The Union is in its infancy and has not had time to organise as yet, and so I venture to think it is a bit premature to criticise." Rather ought to rejoice that the blessed infant has already done something worth criticism; but it is to be suspected that here again he means not criticism pure and simple, but impartial, and unprejudiced, but adverse criticism—mere fault-finding, which is not criticism at all in the true sense of the word. If he thinks that we are in any degree or for any reason, unfriendly to the Assistants' Union, he is utterly mistaken. We have said before, and say again, that we wish the Union the fullest measure

in all its legitimate aspirations. All the same, I take leave to criticise it as occasion may arise—either adversely or favourably will depend on what at any given moment may seem to be its deserts. In this we shall treat it precisely as we treat the other national organisations—that is to say, with complete independence of judgment and with strict impartiality, giving in every case the true measure of praise or of what seems to be deserved.

Contracts for Housing.

Grey asked, in the House of Lords last Wednesday, were the terms of the agreement made by Dr. Nathan with the building trades to facilitate the erection of houses, and whether they contain the principle of payment of contractors or others on the basis of cost plus percentage of profit. Viscount Peel explained that the Ministry of Health had discussed with representatives of the building trade two forms of procedure. One was that the Local Federated builders should meet the Housing Commissioners to agree upon the prices at which houses should be built, the Federated builders to distribute the cost in proportion to the resources of those willing to take it for the local authority in consideration of a system with variations corresponding to the charges for material and labour. The other scheme would enable the local authority holding partly developed land to erect more houses on it, to be bought, with the land, by the local authority for a specified lump sum which admitted of no deduction except for rates of labour.

Stratford-on-Avon and an Alleged Factory.

Mr. Nathan declared that there is nothing wrong with the "factory" proposed for Stratford-on-Avon, except that which has been given it by opponents. It is not a factory, we are now told, but a workshop. That is the complexion of affairs. But why should the "factory" inspire so much terror and repugnance? As a special correspondent of "The Observer" writes, the name "suggests, of course, a great, imposing building, with a tall, horrible chimney, creating an atmosphere resembling that of Widnes. But the proposed workshop will be a single-storey affair, without a chimney at all. Its power will be derived from hydro-electricity, and it will not make any devastating noises or cause unpleasant smells." It appears, then, that the incident illustrates the proverb, "Give a man a bad name and hang him." That the word "factory" should be a "bad name," a term of reproach and probrium, is significant evidence of the contempt which the old type of factory is generally held in. Evidently there is now no valid reason why a factory should either pollute the atmosphere or disfigure the landscape. More thorough combustion, dictated by economy as well as by amenity, and a new type of building, planned and constructed to meet the requirements of modern scientific organisation and management, and presenting quite a pleasant appearance, must very soon render the old and hideous type entirely obsolete. As to the location of factories, the advice of the town-planner will presently be more fully heard. Comparatively inoffensive though the modern factory will be in its appearance and in its functions, it ought not to be allowed to crop up haphazardly and incongruously in the midst of a residential or commercial quarter. One should be able to avoid the factory; to that end it should be situated in a district wholly set apart for it, well to windward of the non-industrial districts. Quite an elderly Act of Parliament secures this protection to a minor degree. It can prevent, for instance, the setting-up or the extension next-door of a business that is provably a nuisance; but it is always much more difficult, and is impossible, to suppress a nuisance that springs from an adjacent field, and this disqualification renders the law for redress.

Labour and Borough Councils.

Many timorous souls are greatly perturbed by the success of so many Labour candidates at the municipal elections. In the twenty-eight metropolitan boroughs, Labour has increased its representation from thirty-nine seats in 1912 to 566 seats in 1919, and is the dominating party in thirteen councils. What can it all mean? Are the Labour men aiming at direct action, Soviet rule, the harrying of Capital, and, in short, the establishment of a new form of class tyranny? We do not think so. We believe that the strong sense of justice which is admittedly the most marked feature of the British democracy, and the love of moderation and compromise that is characteristic of the entire race, may be safely trusted to safeguard us from at least these grosser forms of unfairness—such as the wholesale confiscation of property—that haunt the minds of the timid; and we are not without hope that actual experience of local government will remove many illusions from the minds of the workers, and will be a very effectual means of improving their education, broadening their outlook, widening their sympathies, increasing their tolerance. Their ignorant misconception of practical politics is to be dreaded much more than their participation in them, which is certain to have a steadying influence on most of those who are taking their first lessons in the science of civics. It may be assumed that on those few councils on which Labour happens to be in power the effect on building will be instant and positive; for almost to a man the workers favour the direct employment of labour, and will certainly adopt this system where the majority is theirs, and the sequel will be their wholesale rejection at the polls as soon as the electors realise the extravagance of the method. Labour must be scrupulously just and fair-minded if it is to retain its newly-won position on the councils; for it holds that position by virtue of its own strenuous exertions and the utter apathy of three-fourths of the electors, who, roused from their apathy by any provocative act on the part of Labour, could make a clean sweep of it. Personally, we trust that Labour has some to stay. Without it the municipal council cannot be truly representative. Labour, being on its trial, should be on its best behaviour if it wishes to win the confidence and respect of a community which as yet has by no means lost the power of keeping it out.

Town-planning and Road Construction

In their report recently issued the Road Board, who have in hand some ten million pounds for immediate expenditure on road improvements, give clear evidence of their recognition of the intimate interdependence of town-planning, building, and road-formation. A scheme of new roads for the Dock and Lower Thames-side area having been recommended by the London Arterial Roads Conferences, the Road Board comment that "Any schemes for new roads in the Victoria and Albert Dock area require to be related to the need for providing new or improved communication with the City, with the river-side as far as Tilbury Docks, and with those parts of the provinces which are coming into road-traffic relationship with London as a result of motor transport." This is a good far-sighted outlook, and the Board see also that the present wastage of time through defective road-planning is very detrimental to trade and industry, while the building developments either in sight or already commencing threaten to obstruct the best possibilities for improvement, and must render remedy more difficult and more costly the longer the matter is delayed. When the members of so unpromising a body as a Road Board show such enlightenment and sweet reasonableness, there is good ground for hope that converts to the pure doctrine of town-planning will presently flock to the standard in vast and invincible armies.

Architectural Causerie

IT was my good fortune to attend at the Institute on the evening of Tuesday, the fourth of November, a night of reunion long to be remembered. The President's lofty message came with singular effectiveness to the ears of the gathering. Some of my friends had made long journeys from the shires in order to be present, an earnest of the general desire of all members of the profession to be identified with the problems now confronting the country. On this auspicious evening no urgent whip was necessary to call architects to Conduit Street: the personality of Mr. Simpson was sufficient inducement, not to mention the presence of His Excellency the American Ambassador, the President of the Royal Academy, Sir Reginald Blomfield, and many others eminent in the profession. It is evident that architects are unanimously in favour of making the Institute the central pivot of all that concerns the art and craft of building.

Many times during the past five years I have longed for such a gathering, and have retained impressions of meetings in those far-off pre-war days. In fact, we were all surprised to meet old friends, to renew old acquaintanceships, to be introduced to new faces, to think in silence of those who left us to make the great sacrifice, and to greet the returned victors. To me it was an occasion for friendly button-holing. I had a word with Mr. Bateman, a long conversation with Mr. Errington, from Newcastle, a few minutes' chat with Sir Brumwell Thomas, and found time to exchange a bon mot with Mr. Guy Dawber.

His Excellency the American Ambassador thrilled the hearts of those present with an oration of extreme vigour, in which architects were described as the true ambassadors, and building as the only trustworthy literature. It was pointed out that architects have the power to influence the minds of their fellow beings, as well as to project messages into the future for the benefit of those of newer generations, and also that men were the better for being brought into contact with uplifting art. Needless to say, His Excellency spoke with feeling regarding the genius of Charles Follen McKim.

The meeting was an unqualified success, there was a nice sufficiency of speechifying and some illuminating remarks. For example, Sir Aston Webb dwelt at some length on the advances made in our attitude towards the design of buildings, particularly the preliminary shaping of elevations, which most of us now realise to be not the least of the determining factors in the making of a plan. Seeing so many architects assembled together, one could not help jumping to the conclusion that this was the opportunity for some lively discussion, non-political, of course. I gathered from Mr. Greenslade that several of those present, from a distance, would have welcomed the chance of saying a few words in order to ventilate views of momentous interest, but the formality of the gathering did not allow a departure of this kind. Sir Reginald Blomfield was a prominent figure at the meeting; indeed, some of us hoped that he would have spoken on vital subjects. We all remember him as the champion of our hopes in the long ago, and, personally, I entertained the same sense of gratitude to Mr. Ernest Newton, a feeling shared sans doubt by all present.

It has been stated that the Royal Institute can do any thing but turn a young man into an architect. Mr. Simpson and his distinguished supporters made the assembled audience feel their responsibilities as arbiters of taste, for he held architects to be the trustees of other people's affairs. On the day of the meeting I lunched

with Mr. Davis, and profited exceedingly by listening to his impassioned talk. Among other things, we discussed the basic principles of architectural design, which Mr. Davis, as an old Beaux-Arts man, regards to be the outcome of reasoning, in which he is in complete agreement with the teachings of Professor Gaudet.

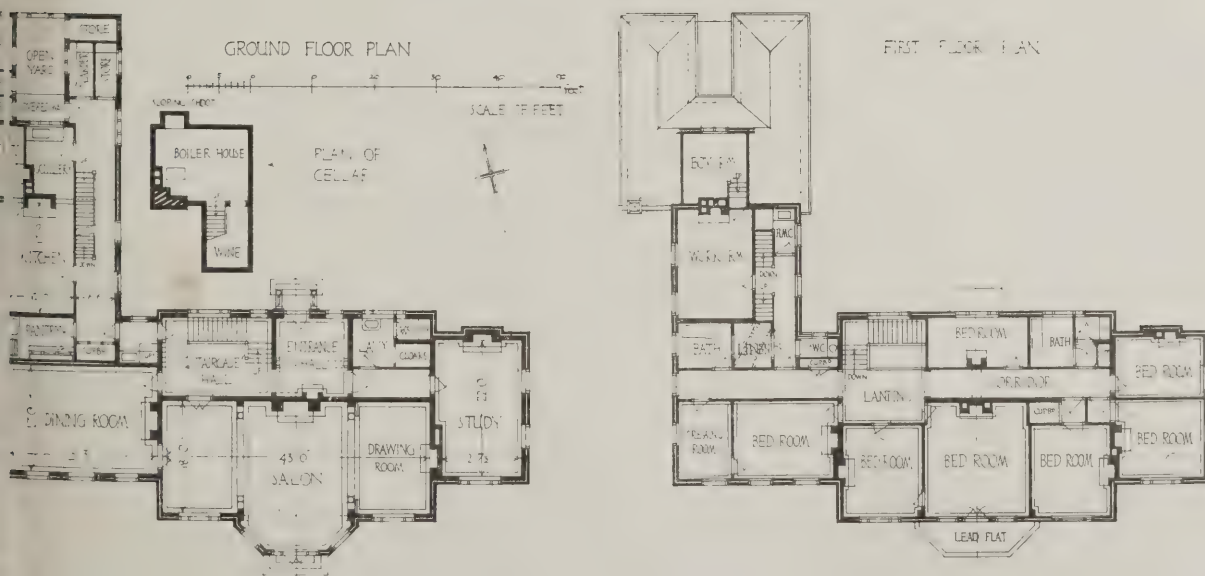
As an illustration of what reasoning on logic can do in an emergency the following is interesting. Some years ago a foreign potentate was expected to visit a French town at short notice. In consequence a meeting was hastily convened by the Mayor to discuss the method of greeting the distinguished visitor. The architects and artists of the place were asked to advise, they suggested all sorts of temporary decorations, but these were vetoed, because there was no time to carry them out. The Mayor and Council were in a quandary, wondering what could be done at such short notice. Suddenly an idea came from an unexpected quarter, a gentleman, who was neither architect nor artist, remarking, "Let us reason the matter out in this way. When the august visitor will arrive at the station, he will be met by five minutes greeting the fathers of the city and listening to a short address, he will then enter a carriage and drive away. Would it not be expedient to arrange a series of tents and military trophies as if for a pageant? We could borrow some gorgeous furniture and tapestries from the National Museum, and so arrange the setting on a grand scale. In other words, let us reproduce the splendour of the features of the Field of the Cloth of Gold on a miniature scale." We architects of this age must cultivate the qualities of imaginative reasoning if we are to add further gems to the architectural treasury. I hear that in some quarters, Professor Lethaby's appeal for a new style has created a demand for immediate action. It is a laudable command, and will receive considerable support. Yet I am convinced no living architect will ever see this realised. The fact is, for seven thousand years man has been experimenting.

A new style breaking with the teachings of tradition is a physical impossibility; we might just as well demand the sun to stand still. The Egyptians evolved a definite expression in the course of five thousand years, one, moreover, indicative of the conditions of their climate, religion, and customs of the people. The Assyrians borrowed from the Egyptians, the Persians also borrowed from the Egyptians, and the Hittites borrowed from the Bactrian Greeks. Greek architecture, in its beginnings, speaks eloquently of the architectural atmosphere of the Ancient East; and we all know that out of the pet ideas of Rome, Byzantium, and the Renaissance. From the time of Menes to the riveting of the Roofs, the buildings of the world have shown the same reverence for elemental truths, the same principles of composition, the same unwritten laws of selection. With the invention of steam and the exploitation of steel it became possible to deal with unusual problems. As a result the nineteenth century witnessed a series of frenzied experiments; architects momentarily lost their mental equilibrium, and rushed from this to that antique time for salvation. But the elementary principles remained constant, for no man could better them.

For some years I have kept my eyes open to all experiments. I have seen so-called new styles turned out one after the other. When a designer of unusual ability desires to cause a sensation he simply undresses architectural style and turns it forth naked and unashamed. The Garnier's scheme for the buildings of an Industrial Exhibition reflect this tendency. The new and naked style once launched causes a mild sensation. Some profes



SOUTH ELEVATION



AT LISS, NEAR PETERSFIELD, HANTS. C. D. CARUS WILSON AND L. KEIR HETT, A.A.R.I.B.A., ARCHITECTS.

n the simplicity of its shape, but it is not long
re novelty of expression wears off, five or six
the outside. At this moment we are all doing
to bring about an improvement, but not at the
of sacrificing good taste. Each successful
produced in the world represents another stone
ilding of the pyramid. The new is being con-
re-created out of the old. Because we are denied
very of future styles we are forced to seek for
etus from the past. We make our discoveries
tively. This procedure is inevitable—it is
t is just. Architecture is the slowest thing on
pace cannot be accelerated or electrified: it is
hing on earth that moves in direct ratio to the
is of a people. Because we are engaged in
g the traditions imposed by those who have
ly preceded us we cannot be expected to pro-
ew style. Those who follow in our footsteps
e best judges of the work of to-day, but from
ntage point a new style will be just as
ble.

* * *
style is, notwithstanding, in the making; one
scholarship, invention, and logical reasoning,
not avoid subservience to unalterable forms,
in principle, and in part consonant with the
y of things. It would be a strange sort of
architecture if it could. Our professors would
ake a journey to the floating island and join the
those who never die in order to master its
; it would not be of the earth earthy, even if it
sible.

I am not one of the malcontents, yet I claim to be an
advanced thinker. To the knowledge of M. Jean Louis
Pascal I would add the cultured restraint of McKim. It
is my hobby to keep the whole of America under observa-
tion, to note each experiment as it appears in the cities
on the other side of the Atlantic, to observe that our
cousins, thanks to the training our mutual ancestors gave
them, have travelled beyond present insular capacity,
and to remark that America, the forcing ground of
experiment, is content to be conservative to a degree in
building expression. Conception and logical reasoning
are the concomitants of design, the forceful agents of the
scientific art. Sufficient it is if we can devise a scheme in
diagram, provided it fulfils a given programme, with a
reservation that the conditions be at least fair and not
too complex for interpretation. We clothe our naked
designs to suit climatic conditions, the cut of the gar-
ments depending upon our knowledge of tailoring.
Architecture in the fullest meaning of the term does not
spring into being at the behest of a populace, however
advanced, neither will it respond to the movements of a
thousand facile pencils; it is something intangible and
mysterious, simple, and complex by turns, capricious to
an extreme, and vivacious to a degree.

* * *
I have allowed my gold nib to run off at a tangent;
talking, scribbling, and gesticulating will not improve
matters, so I must leave off to give some poor
homeless one a decent roof and at least a presentable
front door.

AERO.

A Visit to Sir John Soane

By ARTHUR T. BOLTON, F.S.A., F.R.I.B.A., Curator of the Soane Museum.

(Concluded from No. 1297, page 598.)

USE the question were put to Sir John Soane,
"What does your museum contain?" It is certain
the reply would be, "Call in and see for your-
self; anything interests you, inquire, and I will tell you
an." Though he spread his net wide, Soane
seems to have bought anything without some
definite in his own mind. He saw relations in
and this to the point of symbolism. There was no
on forthcoming; it is like the opening fable of
a work of which he was very fond. If the one
does not see he is the passer-by, and the other
reward, something of the soul of John Soane.
ative refusals of Soane prove this; he declined
t was offered him, the Downman Sketch Books,
awings and MSS., etc., doubtless because it was
his particular purpose. His museum is full:
rk, who saw it often, says "to the bursting
ut it is not disordered, nor, from the founder's
view, could it be better arranged. He had
t it for twenty-five years, and naturally wished
in as he left it.

visitor is deceived by the harmony of Soane's
to thinking it is all of one date, but the main
e 1810, 1812-13, 1824, and 1834. To the third
longs the Hogarth Room and Monk's quarters
o 1834 the extension outwards of the front
ilising the previously open arcades, and the
of the attic story. In the breakfast parlour
d) the mirror ornaments are additions of a later
ne dome spandrels originally had flying figures,
ling and in the Bank. The house is like a
orked over by the artist, who has never parted
A professor of architecture said "This is about
of all the museums," an Australian visitor
l, "But this is a home, and not a museum,"
art worker declared that "it reminded him of a
shop." Soane would have delighted in these



THE CATACOMBS.

varied appreciations. The eye of the architect has selected the casts; it is the mitre, soffit, curve, junction, and stop that are given, not the mere running length, which evades the carver and ornamentist's difficulty. "Get the section right, and the light and shade will resolve itself," was the pregnant hint of a sculptor. Soane's interiors are planned to a fraction. Look at the lined face of his master plasterer, Mr. John Baily, whose bust is in the museum. It recalls a legend of a famous church architect, whose vaulting diagrams were held to have accounted for the deaths of a sequence of clerks of the works. Soane's easy-going rival, Nash, declared, *à propos* of an Ionic capital on one of his buildings, "that an Ionic was an Ionic, and he did not care which one his draughtsman used." He further objected to Gothic on the ground "that one window involved more work than a whole house." It is well to recall these differentia, instead of confounding artistic personalities in generalisations about periods.

"Sheraton chairs," remarks the visitor, admiring the furniture that is characteristic of Soane's buildings, on second thoughts, "the legs are not perhaps quite so." Precisely, for "Foxhall, whose son became Soane's pupil, was the architect's friend and favourite furnisher, also on yet further examination you will find something absolutely unique in the architect's command of interior detail." Whoever dispensed better with cornice, chair rail, skirting, and architrave? Whence this mastery of the flush surface and reeded finish? It is not Soane's fault that the use of the once costly mirror has degenerated to the common-places of the vulgar restaurant, and of the interior of the cheap hotel. In his hands a mirror prolongs a soffit by the magic of reflection, or focusses a view, concentrating an interior, as in a vignette.

Colour with Soane is perhaps first of all a means of modifying form. Robert Adam had used broad tints to reduce white, in relation to tapestry, embroidered silks, and draperies. Soane wanted to obtain something of the fusing effect of southern sunshine, and he mingled yellows from gold to primrose in the glazing of his lanterns, and proceeding further put in bands of crimson and even purple. Great was the outcry, the arid critic arose at once, and said that the architect had sought to disguise the criminal, and impart a blush to the face of the prosecuting counsel, who were both destined to figure in his Law Courts at Westminster. Soane yielded to advice, and here, at any rate, took out his imaginative glazing. For walls and ceilings he liked definite colour,



THE DUKE OF RICHMOND'S MUMMY CASE.

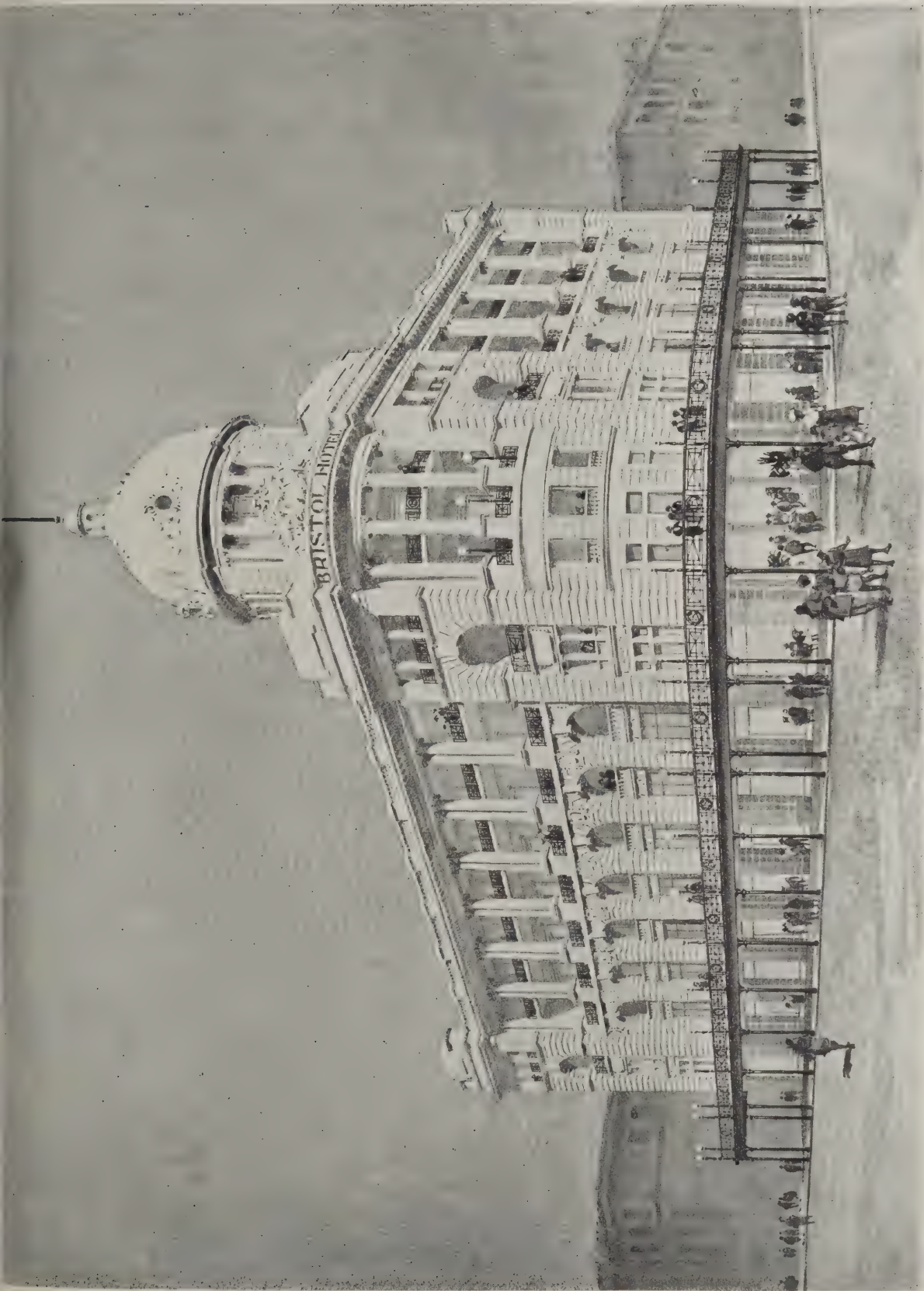
which subsequent timidity has greatly diminished. The Library, however, owes much to its old Roman room. In this interior the architect's contribution to the ceiling is surely better than the painter's. The archi-

shaded ornaments are bold and characteristic, while the ceiling is deficient in decorative effect. The present washed-out green of the museum and staircase is original.

Marble effects and bronze—mouldings, framing definite inlays as of marble and wood—flush in rich mahogany—sum up the elements of a completed interior. The original carpet of the Library, still existing, faded in the exposed parts, colour as definite as that of Adam carpets that remain. The architectural framing by balustrade, ornament, the octagons and polygons, etc., used by Adam, consisted with Soane, as when the design of the carpet reflected the ceiling. Soane's goal was a harmony of effect, obtained by a fusion of multiplied details, chosen from the widest possible field of selection. He sought to bring nature, and collected specimens of natural objects, in which he sought to trace the originals of



ANTE ROOM IN BASEMENT.



BRISTOL HOTEL, CALCUTTA. VINCENT ESCH, ARCHITECT.



Detail of Principal Entrance.



Council Chamber and Committee Rooms.

UNIVERSITY COLLEGE, DUBLIN. R. M. BUTLER, F.R.I.B.A., ARCHITECT.

YEAR 11
JULY 1912
1912

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OF THE
UNIVERSITY OF ILLINOIS

entation. He bought the Hogarths, and having so he placed "The Election Series" on the and put "The Rake's Progress" inside abinets, because the great Canaletto then ed the end wall of the Picture Room. es of vice and misery" were not to disturb lm beauty of his interior, or to be constantly n From a glance at them, when the folding doors cabinet were opened, the eye returned to "The of Nature," illustrated here by "The Passage of Callcott, a classical composition of lake and ins. The hurried modern visitor demands to see Hogarths in a row, so many thousand pounds' of painting at a glance, but the ways of Soane different, and the reach of his mind is as typical in uping of the pictures and objects in his museum, ny other of his varied artistic creations.

The Plates Described

Decorations in an East-End Church.

is dull age any effort to add beauty and colour to e demands the attention of all who are interested the arts and the efforts that are made to brighten es of the poor. The decoration of an East-End is, for that reason, a matter of more than local . It provides a good example of the advantage to ed by a closer co-operation between architect and . In this case the painter was Mrs. Dora Meeson of Chelsea. The church was St. Anne's, Lime- Mrs. Coates had a difficult task. In the centre, the altar, is a fine window, aglow with rich The walls are a cold stone colour, and the light The artist, therefore, had to devise a colour to harmonise with the walls and the window. ccess cannot, of course, be recognised from the



SOANE MUSEUM : THE NEW STUDENTS' ROOM.

photograph reproduced on this week's frontispiece, but it can be noted at a glance on a visit to the church. The medium employed was tempera, which, of course, added to the problem. There was really no choice in the matter, as the brightness of the window and the dulness of the walls demanded a flat, unreflecting medium.

The two panels represent the Annunciation and Christ appearing to Mary Magdalene. Graceful and balanced in composition, charmingly delicate in drawing, these panels add dignity and life to the interior of the Church.

The panels are dedicated to the memory of Miss A. F. Gurdon, a sister of the Bishop of Hull. She lived in Limehouse for twenty-three years, and for the whole time worked for the Church and the poor, by whom she was much beloved. The choice of subjects was obviously inspired by the purpose to which the panels were dedicated, and the artist's work was a work of love and esteem.

House at Liss, Near Petersfield.

This house was completed in the early months of 1914. It is built on the Stodham Park Estate, overlooking extensive views of the Hampshire Downs. The chief feature of the plan is the salon, which has an oak floor, and is designed for dancing: a small drawing-room at one end can be screened off if required. In addition to the rooms shown on the two plans, large bedroom accommodation is obtained in the attic floor. The materials are local bricks of variegated colours, arranged with a suggestion of diaper patterns on the walls (which are hollow) and hand-made red roofing tiles. The contractors were Messrs. Musselwhite and Son. The architects were Messrs. C. D. Carus Wilson and L. Keir Hett, A.A.R.I.B.A.

Bristol Hotel, Calcutta.

This illustration shows the design of Mr. Vincent Esch for the rebuilding of the Bristol Hotel, one of the oldest landmarks in Calcutta. The following accommodation



THE DÔME : BUSTS OF SOANE AND LAURENCE.

will be provided: Ground floor, shops and corner entrance; first floor, billiard-rooms, dining-rooms—both public and private—and a dancing hall; second floor, hotel bedroom suites; third and fourth floors, small flats.

University College, Dublin.

In this issue we publish some further views of the new University College, Dublin, of which a number of illustrations were given last week. The complete scheme will provide for the following departments: Administration, Students' General Accommodation, Arts, Physics, Chemistry, Physiology, Pathology, Examination Hall, Library, Anatomy, Public Health, Materia Medica, Engineering, Geology, Architecture, Miscellaneous.

The buildings contained in the present contract provide accommodation for the departments of Experimental Physics and Chemistry in Block "A," the buildings along the main frontage facing Earlsfort Terrace being devoted to Arts and Administration and students' general accommodation.

Economy being an essential factor, the planning and architectural treatment are on simple and direct lines. The trend of modern educational development at home

tural traditions centre in the fine monumental work of the eighteenth and early nineteenth century, as seen in the public buildings of Dublin. It was important that the new building, while unpretentious, should not be without some architectural dignity. The simple style chosen lends itself well to the use of the fine native stones of the country, which are better adapted to securing effective results from well-disposed masses, rather than by elaborate details.

The composition has been frankly based on the architecture of the eighteenth and early nineteenth century. The later type, known as the Græco-Roman phase, which prevailed in England from about 1820, developed in Ireland considerably later, and is exemplified in the King's Inns, General Post Office, and the Custom House.

The treatment follows these lines, the architectural order being the Greek-Ionic, adapted from the Temple of Eleusis. The main façade consists of a central columnar block with two side wings, and a projecting pavilion at either end.

The total length of the frontage to Earlsfort Terrace is 520 ft., the frontage of the block facing Stephen's Green 250 ft.

The whole of the exterior façades are faced with



SOANE MUSEUM : THE BREAKFAST ROOM. LOOKING SOUTH.

and abroad has been towards two types of collegiate building—the one modelled on the older colleges, such as Oxford and Cambridge, the other tending towards utilitarian buildings, as exemplified in the larger technical institutes and colleges of science.

It is obvious that the limitations of the restricted site did not favour the planning of a new college upon the former lines, and in the form of detached blocks; while the literal adoption of the latter type would be out of keeping with the position which University College is naturally expected to fill in the educational life of Ireland.

An endeavour was, therefore, made to find a solution in a compromise, preserving something of a collegiate character, but not descending to the level of a mere technical school. Sentiment, as well as practical points, must weigh with anyone acquainted with Irish ideals in such matters, and almost implied a large and more or less dignified composition. These considerations greatly influenced, if they did not dictate, the architectural character of the design.

In Ireland there are no traditions of collegiate Gothic design in architecture. The Tudor style and the florid earlier Renaissance had no place in the architectural history of the country. All the good secular architec-

Irish limestone from Mr. James Kiernan's Strand quarries, finely chiselled. The principal entrance doors are of enriched bronze, with white marble dressings.

The construction throughout is fire-resisting, all walls and ceilings being of concrete reinforced with expanded steel. The materials used generally are, as far as possible, Irish.

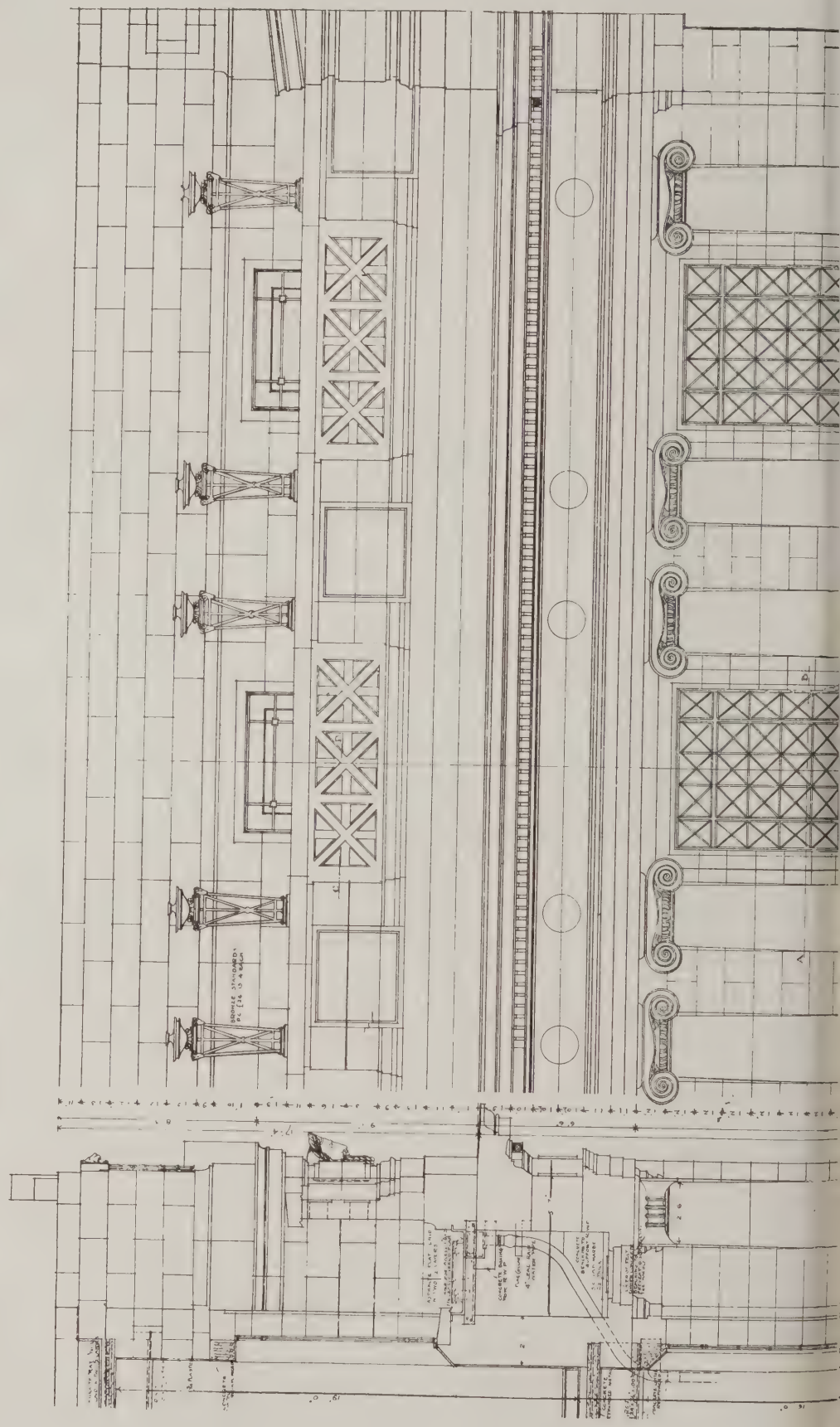
The interior is exceedingly simple, decoration being limited to plaster enrichments in the more important rooms and corridors and to marble stairways and pavements. The marbles used are black Merlin, Merlin (Galway), Red Castleisland and Sicilian white. Many doors are used for the chief apartments.

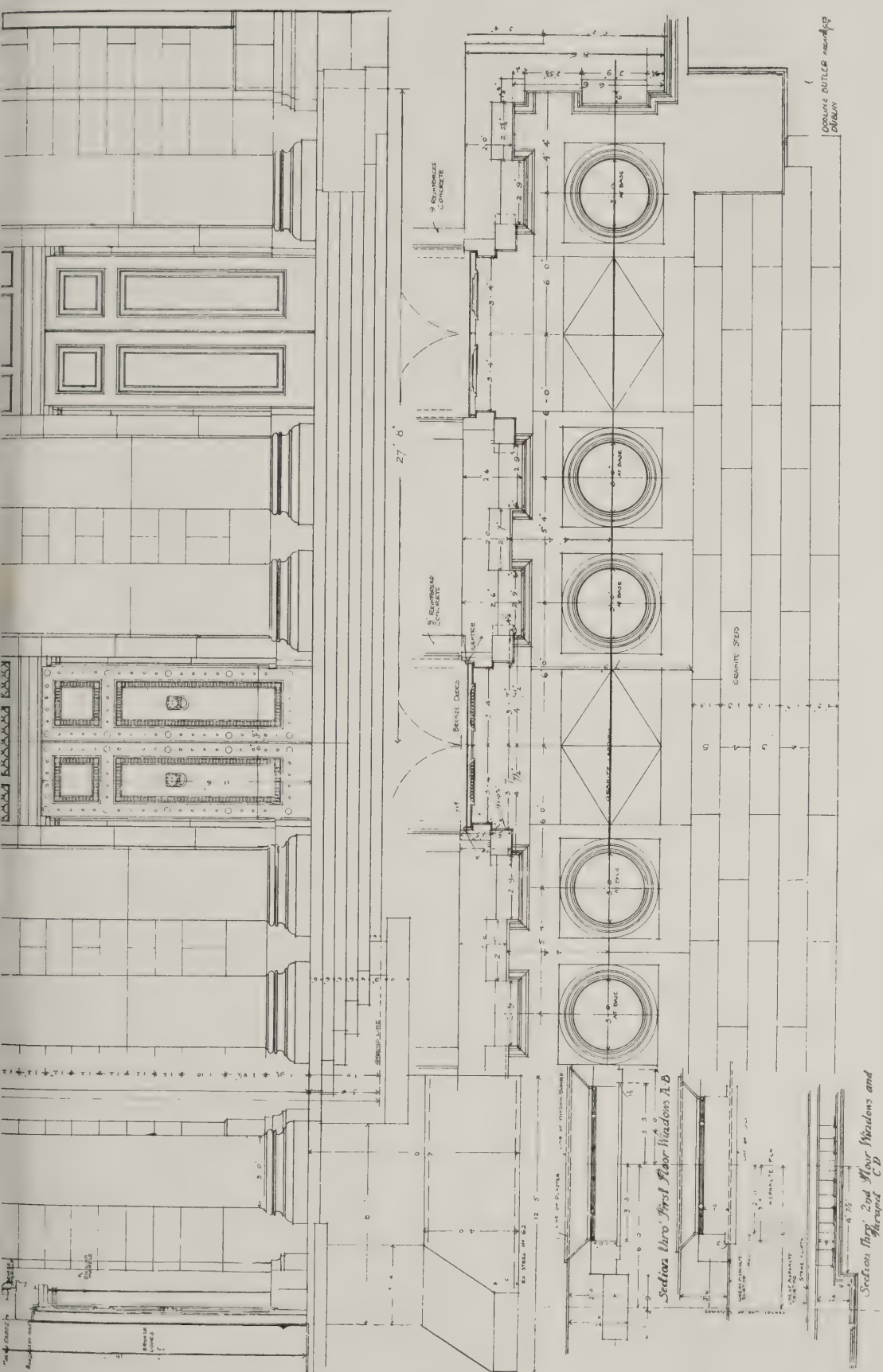
The heating, on the low-pressure hot-water system, was executed by Messrs. Haden Ltd.; hot water service, Messrs. Curtis, Ltd.; plumbing, Messrs. Bairds, Ltd.; scientific equipment, Messrs. T. and C. Martin, Ltd. The design was executed by Mr. Albert E. Power, R.I.B.A. sculptor. The architect was Mr. R. M. Erskine, F.R.I.B.A.

Of this fine new building we shall publish in subsequent issues a series of working drawings, the educational character of which may be judged from the examples shown on the double-page plate in this number.

1871
OF THE
UNIVERSITY OF MICHIGAN

UNIVERSITY COLLEGE, DUBLIN
Detail of Centre Portion between Pavilions, Main Front.





UNIVERSITY COLLEGE, DUBLIN: DETAIL OF CENTRE PORTION BETWEEN PAVILIONS, MAIN FRONT

R. M. BUTLER, F.R.I.B.A., ARCHITECT.

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phase of the subject I quote again from Tudor Walters' Report, page 75, paragraph 339, which reads: "We recommend that in all cases there should be a schedule of prices and that as far as practicable some standard form should be adopted for this schedule in order to facilitate supervision and easy comparison." Again on page 76, paragraph 346, it says that the "schedule should not be on the lines of ordinary bills of quantities, but should be a definite schedule of the actual quantity of each material in the building as nearly as possible in form in which it would have to be ordered." Further extracts from the report state that the schedule should be so framed that it should be easily priced; that in Bills of Quantities as generally prepared, labour, which is a variable item, is included in the cost with materials, which may or may not be variable items; and that it is hardly possible to study labour costs, compare them, and arrive at standards unless separate schedules are adopted.

The requirements as set forth in the Tudor Walters' Report are that "These schedules should be carefully prepared for the guidance and assistance of all those engaged on the work, and careful costing of the different materials and labours should be based thereon. In this it would be quite simple for the contractor and those supervising the work on behalf of a local authority or the State to secure valuable comparative data, to prove the cheapest type of house in proportion to accommodation provided, and the most economical system of contracts and methods of management."

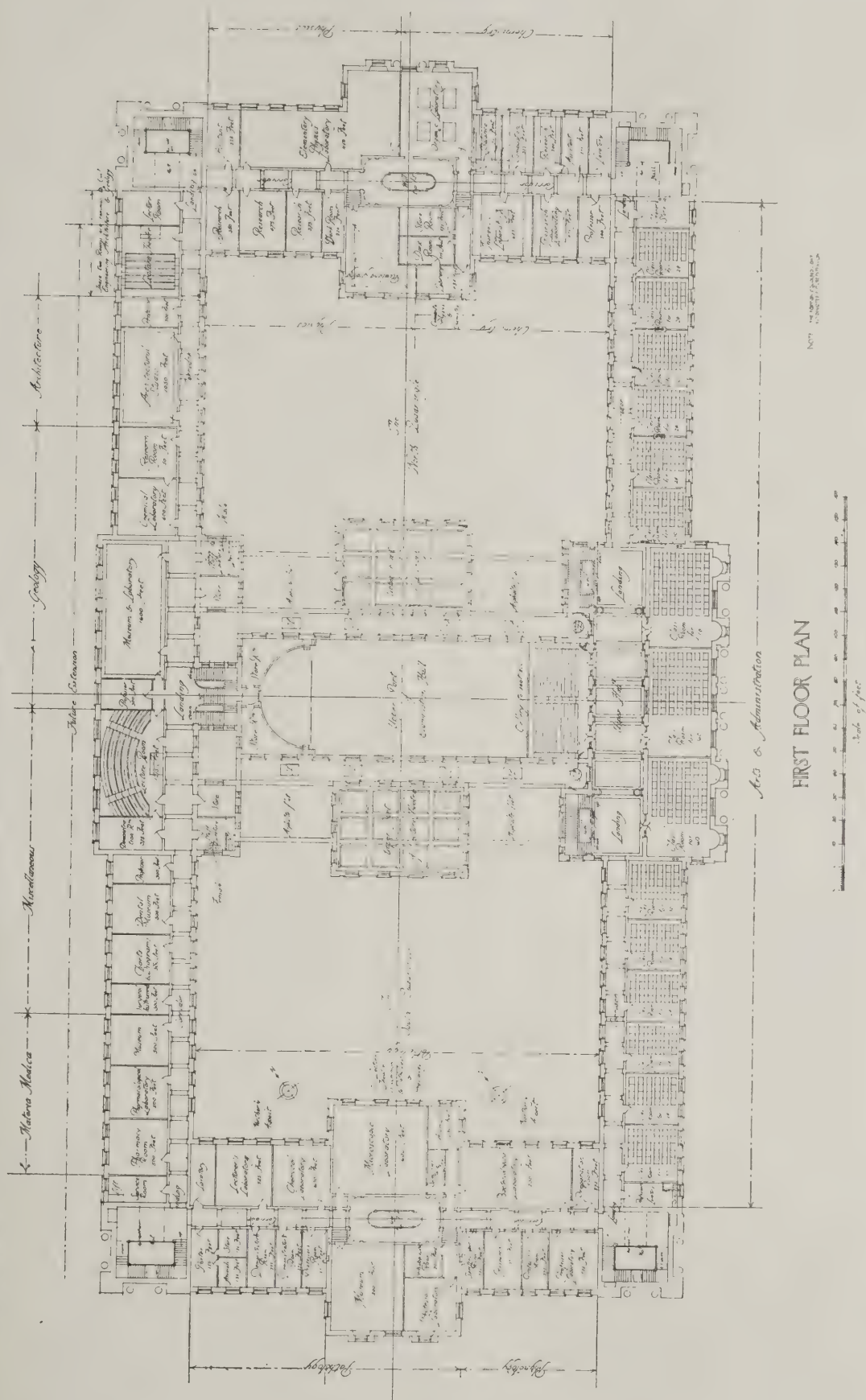
The following is a summary of actual costs for each trade on the basis of Practical and Scientific Bills of Quantities:

Schedule of relative value in cost of Materials and Labour for Cottages.

	MATERIALS.			LABOUR.		
	Percentage of costs.	Ratio in approximate value per £.	d.	Percentage of costs.	Ratio in approximate value per £.	d.
Excavator and Drainer	2.47	6	10	45.41	9	1
Concrete	1.84	4 1/2	16	...	...	...
Bricklayer	17.26	3	4 1/2	...	...	...
Carpenter and Joiner	15.52	3	7 1/2	...	...	...
Slater	1.78	1	2	...	...	...
Plumber and Glazier	4.95	4 1/2	2 1/2	...	...	...
Plasterer	1.05	0	2 1/2	...	...	...
Painter	...	2 1/2	5	...	...	...
The remaining costs being made up as follows:						
Insurance	...	...	...	...	...	...
Plant	...	...	...	...	...	...
Water	...	...	...	...	...	...
Temporary Lighting, etc.	...	...	...	...	...	...
Sheds	...	...	...	...	...	...
Stationery, etc.	...	...	...	...	...	...
Rent, rates, taxes, etc.	...	...	...	...	...	...
Staff Salaries	...	...	...	...	...	...
Total 100%						

Item.	Quantity		Rate.	Labour.			Rate.	M
				£.	s.	d.		£.
Common Brickwork.								
1.		No. Common Bricks 9 in. by 4½ in. by 3 in. Per thousand delivered on site						
2.		No. Bricks for Labour setting (built 7 courses to 2 ft. and set in lime mortar). Per thousand						
3.		Yds. Labour forming hollows to window and door openings, &c. Per suppl. yard						
4.		Yds. Labour forming 2 in. cavity to outer walls. Per suppl. yard						
5.		Yds. Labour to flat pointing to internal walls. Per suppl. yard						
6.		Ft. Labour to rough cutting to birdsmouth and squint angles. Per foot suppl.						
7.		Ft. Labour to bevel cutting and beam filling to eaves. Per foot suppl.						
8.		Ft. Labour to bevel cutting to gables. Per foot suppl.						
9.		Ft. Labour to rough circular cutting to arches. Per foot suppl.						
10.		Ft. Labour plumbing to angles and forming pilasters. Per foot linl.						
11.		Ft. Labour lining out oversailing courses. Per foot linl.						
12.		Ft. Labour lining out and setting back face of wall. Per foot linl.						
Facing Bricks.								
13.		No. F. cing Brick (specify kind) size 9 in. by 4½ in. by 3 in. Per thousand delivered on site						
14.		No. Facing Bricks for labour setting. Per thousand delivered on site						
15.		Yds. Labour to pointing with a neat cut weather joint as the work proceeds. Per yard suppl.						
16.		Ft. Gauged segmental arches in Facing Bricks. Per foot suppl.						
17.		Ft. Labour to setting arches. Per foot suppl.						
18.		Ft. Labour to fair circular cutting to arches. Per foot suppl.						
19.		Ft. Labour to fair cutting to skewbacks. Per foot suppl.						
20.		Ft. Labour to fair bevel cutting to gables (if any). Per foot linl.						
Fireplaces.								
21.		No. Firebricks (specify kind) to Kitchen range. Per thousand delivered on site						
22.		No. Firebricks for labour setting (in fireclay) including all cutting. Per thousand delivered on site						
23.		Wgt. In wrought iron arch bars. Per cwt.						
24.		No. Fixing wrought iron arch bars, average long. Each						
25.		Ft. Labour to forming fair arches to openings. Per foot suppl.						
26.		Ft. Labour to rough circular cutting to extrados. Per foot suppl.						
27.		Ft. Labour to rough cutting to skewbacks. Per foot suppl.						
28.		Ft. Labour forming rough relieving arches to hearths, and including all cutting thereto. Per foot suppl.						
29.		Ft. Labour forming 9 in. by 9 in. smoke flues, parqueting and coring. Per foot linl.						
30.		No. Chimney Pots (specify kind). Each						
31.		No. Labour to fixing Chimney Pots and flanching up (in cement mortar). Each						
32.		No. Kitchen Ranges (specify kind and price at manufactory). Delivered on site. Each						
33.		No. "Barless" fire and wood mantel (specify kind and price at manufactory). Delivered on site. Each						
34.		No. Register Grates and Mantels (specify kind and price at manufactory). Delivered on site. Each						
35.		Supl. Tile Hearth (specify kind and price at manufactory). Delivered on site. Each						

PROPOSED UNIVERSITY COLLEGE DUBLIN



UNIVERSITY COLLEGE, DUBLIN: FIRST-FLOOR PLAN. R. M. BUTLER, F.R.I.B.A., ARCHITECT.

Quantity.	Rate.	Labour.	Rate.	Materials.
		£. s. d.	£. s. d.	
<i>Fireplaces—continued.</i>				
No. Labour setting Kitchen Range including back Boiler, and do all cutting and fitting to brickwork. Each				
No. Labour setting "Barless" fire interior, and do all cutting and fitting to brickwork				
<i>Note:—</i> Wood Mantel fixed by Joiner. Each				
No. Labour setting Register Grates and Mantels, and do all cutting and fitting to brickwork. Each				
Supl. Labour laying Tile Hearths (bedded, grouted and pointed in cement mortar). Per foot supl.				
<i>Damp Course.</i>				
No. Bitumen Damp Course (specify kind) 4½ in. wide, 24 feet to the roll. Per roll				
No. Ditto. 9 in. wide, 24 feet to the roll. Per roll				
No. Ditto. 14 in. wide, 24 feet to the roll. Per roll				
No. Labour laying Bitumen Damp Course, 4½ in. wide, with lapped joints. Per roll				
No. Labour laying Bitumen Damp Course, 9 in. wide, with lapped joints. Per roll				
No. Labour laying Bitumen Damp Course, 14 in. wide, with lapped joints. Per roll				
<i>Breeze Partitions.</i>				
No. Freeze Partition Blocks (specify kind) 2 in. thick, 18 in. by 13½ in., include for waste and breakages. Per hundred				
No. Labour setting breeze partition blocks (in lime or cement mortar). Per hundred				
<i>Mortar.</i>				
Tons Lime. Delivered on site. Per ton				
Tons Sand. Delivered on site. Per ton				
Tons Ashes. Delivered on site. Per ton				
Cwts. Portland Cement. Delivered on site. Per ton				
Cwts. Fireclay. Delivered on site. Per ton				
Tons. Labour slaking lime (some lime increases about four times after slaking) and preparing pits. Per ton				
<i>For hand-made Mortar.</i>				
Tons. Labour mixing mortar in proportions of part slaked lime, parts sand. Per ton				
<i>But if mill ground mortar omit the latter and add:</i>				
Tons. Labour and power in mixing mortar in proportions of part slaked lime, parts sand, and parts ashes, etc. and delivering to positions ready for use. Per ton				
Cwts. Labour mixing Portland Cement mortar in the proportions of part cement to parts sand. Per cwt.				
Cwts. Labour mixing fireclay mortar in the proportions of part fireclay to parts sand, in quantities ready for use. Per cwt.				
<i>Sundries.</i>				
Cwts. Galvanised cavity ties (specify kind), state approx. No. per cwt. Per cwt.				
Cwts. Labour to building in galvanised ties. Per cwt.				
No. 9 in. by 6 in. terra-cotta air bricks. Per hundred				
No. Labour to building in 9 in. by 6 in. terra-cotta air bricks. Per hundred				
No. Labour cutting holes through walls (state average size) and attending upon other trades, and make good after. Each				
No. Labour bedding plates, lintels, pallets and wood joists (intended to be set in or upon brickwork				
<i>Note:—</i> These items and also such items as setting stone sills may be given separately in the bill at the discretion of the Surveyor, depending upon circumstances and nature of work. Each				
No. Labour carefully stopping up putlog holes. Each				
No. Loads: Carting away rubbish from time to time and at the completion, and pay all tip fees. Per load.				
Carried to Summary:				

The latter are general items; and according to the best practice should be kept separate, it being quite simple to ascertain their proportion by costing. It will be noted that the contractor's profit has not been added to the costs. This has not been done owing to the fact that in this case the contractor's profit was a fixed percentage. It would be found an advantage, for many reasons, for the contractor's profit either to be fixed at a percentage or as a fixed and agreed profit on a sliding scale. The contractor would then be assured of his profit, and it would rest with himself as to whether he augmented it by efficient management and organisation of the work. Whichever method was adopted, it would dispel the prevalent idea that contractors are in the habit of making huge profits. Further, the prime costs could be ascertained irrespective of the profit, which would enable the contractor to strike a balance of "profit or loss" on the actual cost of the work, that is to say, he would know whether he had made a profit or a loss in the carrying out of the work, and how this had been effected.

In the foregoing schedule of relative value of the cost of materials and labour (see p. 634) it will be seen that labour accounts for 45·41 per cent. of the costs, materials for 47·15 per cent., and general items for 7·44 per cent., also that in some trades labour costs more than materials, whilst in others labour costs less than materials. Materials, in this instance, in my schedule of costs for cottages, embrace the following four items: (1) materials, (2) carriage on goods, (3) haulage (all costs), (4) power.

(To be continued.)

GLASGOW HOUSING.

Lecturing on the "Housing and Town Planning (Scotland) Act" at the Glasgow University, Mr. Peter Fyfe, Director of Housing, said that Glasgow would be fortunate to get 7,000 houses built within the next three years. But what about the remaining 50,000? Was Glasgow to be allowed to struggle on with such a burden as rental loss upon 50,000 new houses? He did not see any probability that in 1922 there would be such a reduction in wages and the cost of building material that the rents then chargeable would bear the interest and all other outlays. The average cost of working-class houses of three and four apartments was from £800 to £900.

The average economic rent would be no less than £60, exclusive of tenants' taxes. Even if one-half of this sum was assumed to be obtained from the future tenants of these dwellings, the rental loss on each house would be £30 per annum, the rental loss at the end of the third year on 7,000 houses would be £210,000. The Government would bear this loss subject to the deduction of the produce of four-fifths of a penny in the £, which on the total rental of Glasgow would be £24,000. That left a sum of £186,000 to be paid by the Treasury. That would continue to be paid by the Treasury until the end of the seventh year, when a final valuation would be made of the whole cost of the schemes completed within the first three years, and the total capital loss ascertained with a view to finally squaring the accounts. What assistance the Government would be prepared to offer to Glasgow after the three years no one could say.

Correspondence

Architectural Education—A Criticism and a Programme.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The article by Mr. Lionel B. Budden, in your issue of October 29, is one of which I should like to acknowledge the interest. The question of the future of architectural education, which lies so greatly at the heart of the Board of Architectural Education, is one about which a public expression of views is always helpful and always to be encouraged. With Mr. Budden's main aspiration—that architects should be better educated—all architects must sympathise. How that better education shall be secured is the topic upon which architects may legitimately differ. They do differ; and the persons who most earnestly long for improvement are those who, in my experience, most acutely stimulate the grounds of difference.

In accepting Mr. Budden's anxiety for improvement, it is due to his readers that one should at the same time point out the links in his chain of argument which appear somewhat unsound. To begin with, his assumption that the neglect by the Government of the services of architects during the war was due to insufficient education among architects is a very rash opinion. The Government, in its knowledge of the human material at its disposal, made a great many mistakes, and it is at least mock humility on our part to assume that its blindness to the value of architects *en masse* was due to demonstrable absence of value in our profession. If, however, the assumption were correct, why transfer the blame to the R.I.B.A., the body—the only body—to whom the systematic advance of organised architectural education in this country is primarily and fundamentally due?

Mr. Budden should know that the whole system of architectural education throughout the country is stimulated by the standards set up—and from time to time strengthened by the R.I.B.A. The schools may ridicule that system—but they submit to it—often with a very good grace. And in Mr. Budden's case they go so far as to admit its power by dubbing it a "strangling grip."

In passing, it may be well to expose Mr. Budden's suggestion that the Institute favours office pupilage as the normal means of training for its examinations. That office training should be abandoned would be, in my opinion, a calamity to architectural students—but that the Institute has fostered it I emphatically deny. It is an undeniable fact that the policy of the Institute in setting the examination standard, and in fostering the growth of architectural training schools, has dealt an almost mortal blow to the old system of pupilage. In fact, the danger of the hour is lest office training should be unduly suppressed. Under six heads Mr. Budden attacks the Institute. It is, he says, not a body of educational experts, nor of persons who have, as a rule, received systematic training. Yet, in spite of that it presumes, to his regret, to hold examinations; and even sets up a committee (Mr. Budden objects to the word board) to control these tests. Considering the fact that almost all the oldest members of the Council are young enough to have had to go through the examination for Associate-ship, Mr. Budden's strictures are a little

wild, but I imagine that the setting up of the "committee" was due to a wish on the part of successive councils to make sure that the control of the Examinations was left in the hands of the men best qualified by their own training, and their interest in the training of others, to further the cause of true education. As a member of the "Committee" I have reason to doubt the wisdom of the Council's selection in one case, but I cannot endorse in the case of any of my colleagues the suggestion that they are "indifferently instructed in the technique of architectural education."

I do not think that Mr. Budden in the least realises the value to that "Committee" of the members of the teaching profession, who sit both as full members and as advisory members at its deliberations. Mr. Budden is very hard on practising architects. He seems to consider that a practising architect has, *ipso facto*, very little knowledge of what an architect should be. I may remind him that after all the whole and sole object of architectural education is to produce architects capable of practice, and that an architect capable of practice is a better judge of an aspirant's qualifications than any one else can possibly be. This thought brings me to my conclusion.

The question whether in any educational sphere students should be examined by their own teachers or by outsiders is a very old one, and is likely to become older before it is settled. It may be that there is something to be said on both sides, certainly the teaching professions always have plenty to say on their side—and say it. They urge that if Professor X has put something into a boy's brain Professor X is the man to draw it out again. Perfectly sound logic, but not necessarily in the least to the point. What the accredited body controlling the architectural profession wants to know about its applicants for admission is not whether they can bat to the bowling of Professors X, Y, or Z, who have been coaching them at the nets for three or four years, but whether they can score successfully against the untried tornado of volleys, half-volleys, yorkers, lobs, and uncalled no-balls which they will meet on the unsteady pitch of an architectural career.

For Mr. Budden's comfort I may say that I think he little knows how greatly the Board sympathises with the genuine side of his hopes, nor how near the Institute may shortly advance towards a realisation of some of his remedies.

But, speaking personally, I think he may take it from me that there are two cherished possessions which the Institute will never abandon—one of these is its deep and now ancient interest in architectural education, and the other is the key to its own door of membership. It delegates now some of its testing functions and loyally acknowledges the help it therein receives from the schools; it will probably delegate more, but it will never, I believe and hope, abandon its hold on the conditions of admission or subscribe to the idea that it cannot find among its own members a quorum of persons capable of deciding what an architect needs to know.

PAUL WATERHOUSE.

[We are glad to have this statement of the other side of the case from a distinguished member of the profession, and shall welcome further expressions of opinion on the subject.—EDS. A.J.]

"The Open Door."

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—With reference to your comment in your issue of October 29, which you caution the Architects' Union against becoming a nuisance, and in which you credit wisdom of the open-door policy, I am a member of the Union and your remarks must not be considered an official expression on behalf of the Union, but as from an independent source. In the first place, I think that it is for congratulation that the Union is making itself felt in whatever its transactions are carried out by its architects' assistant is, as you say, back to the wall and distinctly on a path, and it cannot be wondered that one cannot take up the weekly Professional Press without noticing upon which the Union should, in the interests of the assistant, take action.

In most cases it does so, thus making a first-class nuisance, apparently. Of any kind nowadays is a nuisance it makes itself felt. As an example of necessary action, Messrs. Marshall and Cribb, of Boar Lane, Leeds, applications from architects prepared to submit designs for a new departmental store for £200,000. From the names of the promoters, with the approval of Sir John Burnet, R.S.A., will be a limited number to compete, etc. due deference to the promoter's competition, and the assessor, who is a limited number to compete, etc. dispute, the conditions are not for younger men, call them as you will, assistants with a reputation to make an assessor cannot be expected, with promoters, to know that perhaps younger men would be only to compete if the competition were different, but have not the courage to submit their names from the fact that though perhaps brilliant men in the of design and capability, are young men have no experience behind the competition does not encourage younger men at all, and as it comes in the purview of orderly conduct of petitions, the R.I.B.A. and they have nothing to say. But it is a matter for the Union who represent younger men to plead that the competition be open to all without selection, to give members a chance.

Further, is it not a bit early in the day to criticise the methods of admission to the Union? The entrance to the profession should be formal and dignified, say, which makes me think that there is an error or misprint in your issue. In the daily Press lately the following was read: "This statement was made by an eminent architect and auctioneer in the City." As matters stand to-day, Dick, and Harry can call themselves architects, and when the R.I.B.A. Society together remedy this state of affairs and make the profession united, and homogeneous in itself, it will be the time to talk to the Union about its methods of admission to membership. Further, if the Union's methods of admission to membership are faulty, they are at present consistent. They do

for membership, turn a number not being qualified for election, then solemnly proceed at the next to admit a further number of men under limitations as to qualifications for membership without a ballot, leaving previously rejected number to wonder why stand and to belaud the magnanimity and fairness with which they have been treated.

Union is in its infancy and has not yet been able to organise as yet, and so I venture to think that it is a bit premature to

A MEMBER.

Editorial comment, p. 616. We did not "caution the Architects' Union against becoming a first-class nuisance." Quite the contrary—we related them on adopting the likelihoods of success.]

COMPETITION NEWS.

Nov. 17.—Southport: New Secondary School.

Plans are invited for a new secondary school in Southport to accommodate 492 pupils. Mr. Maurice E. Webb, F.R.I.B.A., is appointed assessor. A premium of 1,000 guineas will be awarded to the successful competitor, who will be appointed to carry out the work. Should the work be commenced within twelve months of the date of publication of the award, the successful architect will receive a sum of 1¼ per cent. of estimated cost,

but not exceeding 1,000 guineas. This sum to form part of his ultimate commission if subsequently instructed to carry out the design. Premiums of 200 and 100 guineas will be given for designs placed second and third respectively. The site, which is shown in the accompanying sketch plan, covers eleven and a quarter acres. It is hoped that the building can be obtained for, approximately, £90,000. A special feature of the school will be its organisation into six "groups" or "houses" of boys of mixed ages, after the manner of a public school, and this will call for accommodation where each "house" can assemble under its own master. The printed instructions contain suggestions as to the necessary modifications of planning under this system, but competitors are free to submit their own schemes. The schedule of accommodation includes the following: Assembly hall to seat five hundred, twenty classrooms, science department comprising eleven rooms and two stores in addition to the foregoing; art department (three rooms), handicraft department (three rooms and store), staff and administrative offices (five rooms and suitable lavatory accommodation for staff of twenty-five), store rooms for all departments in addition to those above-mentioned; service rooms with hot and cold water on each floor; dining hall for 200 pupils with kitchen and service arrangements; library of about 1,000 sq. ft., three music rooms, gymnasium for thirty pupils, cloak rooms, etc., three common rooms, swimming bath, approx.

50 ft. by 27 ft. (water size), with dressing rooms, etc., rifle range, and caretaker's cottage separate from main building. The drawings required are block plan, sixteenth scale plans of each floor, elevations and sections, perspective, and half-inch detail of one bay of main front. The brief description of the buildings should give particulars of the materials, the method proposed for heating and ventilation, a schedule of accommodation, and an estimate of cost at present prices. A separate estimate for furniture and fittings not included in the general estimate is to be given. Designs to be received by the Town Clerk, Town Hall, Southport, not later than January 17, 1920.

December 1.—Limavady War Memorial.

The Limavady War Memorial Committee invite qualified architects to submit designs and plans, with particulars of materials, for this memorial. First prize of £25, second prize of £15 for the designs and plans which are the two most suitable, those for which they award premiums to become their property. The awarding of a premium is not to constitute any engagement or undertaking that the successful architect will be employed to carry out the work. All plans and designs intended for competition are to be sent to the hon. secretaries, Limavady War Memorial, Town Hall, Limavady, co. Londonderry, on or before December 1, 1919. Simplicity and proportion will be preferred to profusion of detail and excessive costliness of material. Building in concrete blocks or ferro-concrete should be considered. The total cost of the building (including preparation of site) not to exceed £3,000.

December 31.—Wood Green War Memorial.

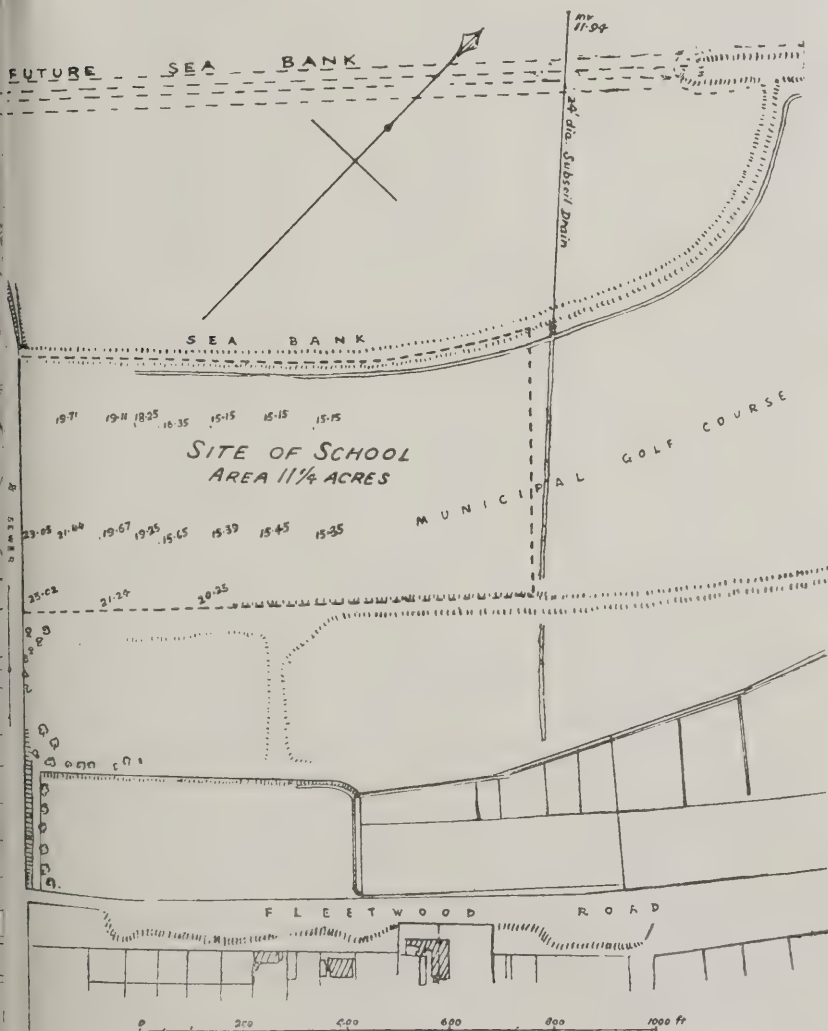
The Executive Committee of the War Memorial Committee invite designs for a memorial to be erected in Stuart Crescent Gardens, High Road, Wood Green. Total inclusive cost £1,000. Full particulars may be obtained from Mr. William P. Harding, Hon. Secretary to the Committee, Town Hall, Wood Green.

Stretford Housing Competition.

In Series III. of the above competition the designs submitted by Messrs. H. A. Gold, M.C., A.R.I.B.A., and W. J. Durnford have been awarded first prize.

NEW BUILDINGS FOR SELFRIDGE'S.

So great an interest is being taken in the erection of the new buildings at the rear of Oxford Street, London, W., for Messrs. Selfridge, Ltd., that the firm have taken the unusual course of admitting the general public to view the building operations. A specially constructed platform has been provided to accommodate the public. A large steam shovel is being used for the excavating, and four hoists have been built to bring the trucks full of soil to the street level. It is estimated that the shovel is dealing with 600 tons of earth a day. The construction of the basement, which will extend 48 ft. below street level, is well in hand. No great difficulties are being experienced by the builders, but a block of old houses standing on part of the site had recently to be destroyed—sooner than was anticipated—owing to their dangerous condition. Upwards of two hundred men are now engaged on the work.



SOUTHPORT SECONDARY SCHOOL COMPETITION: SITE PLAN.

COMING EVENTS.

FRIDAY, NOVEMBER 21.

Society of Technical Engineers (Birmingham Branch).—Second general meeting of the winter session 1919-20, to be held at the Chamber of Commerce, New Street, Birmingham, at 7 p.m. Mr. W. A. Twine, A.I.C., A.M.I.M.E., will give a lantern lecture on "Chemical Engineering up to Date." All technical engineers are invited.

TUESDAY, NOVEMBER 25.

The Industrial Council for the Building Industry.—Meeting in the Royal Station (N.E. Railway) Hotel, York, at 10.30 a.m. Should the Council be unable to complete the business on the 25th inst. the sitting will be continued on the 26th. It is not thought, however, that the sitting need extend into a second day. Agenda: (1) Notice convening the meeting. (2) Minutes of last meeting and matters arising. (3) Treasurer's report and accounts and report of A.C. as to revenue required this financial year. (4) Receive reports, if any, of Council Committees, and if thought proper resolve thereon: (a) Re-settlement Committee; (b) Educational Committee; (c) Management and Costs Committee; (d) Welfare Committee; (e) Administrative Committee. (5) Receive, and if thought proper, resolve upon communications, if any, from: (a) Ministry of Labour; (b) Education Department; (c) Home Office; (d) Ministry of Health; (e) any other Government Department; (f) any other correspondence. (6) Report steps taken for the formation of District Councils. (7) Consider the following resolution received from Regional Production Committee, Region L: "(a) That this Committee urges upon the Ministry of Health the immediate necessity of stimulating and increasing the number of apprentices in several branches of the building trade, especially bricklaying, masonry, carpentry

and joinery, there being a deficiency of skilled artisans in such trades available for the effective carrying out of the Government's housing programme recently approved by Parliament; and, further, that all Education Committees throughout the country be requested to foster and assist the creation or continuance of such apprenticeships in the national interest. (b) That the trade unions connected with the building trade be requested to co-operate in fostering the apprenticeship system, and that the present limits as to the number of apprentices be reconsidered, bearing in mind the pressing necessity for additional houses and the vast amount of reconstruction work now required both in England and on the Continent. (8) Further consider communication from the Royal Institute of British Architects re the recently appointed Building Industries Consultative Board, and to the possibility of the organisations representing architects and surveyors becoming affiliated to this Council. (9) Any other business that may be presented by the chairman.

SURVEYORS' BENEVOLENT FUND.

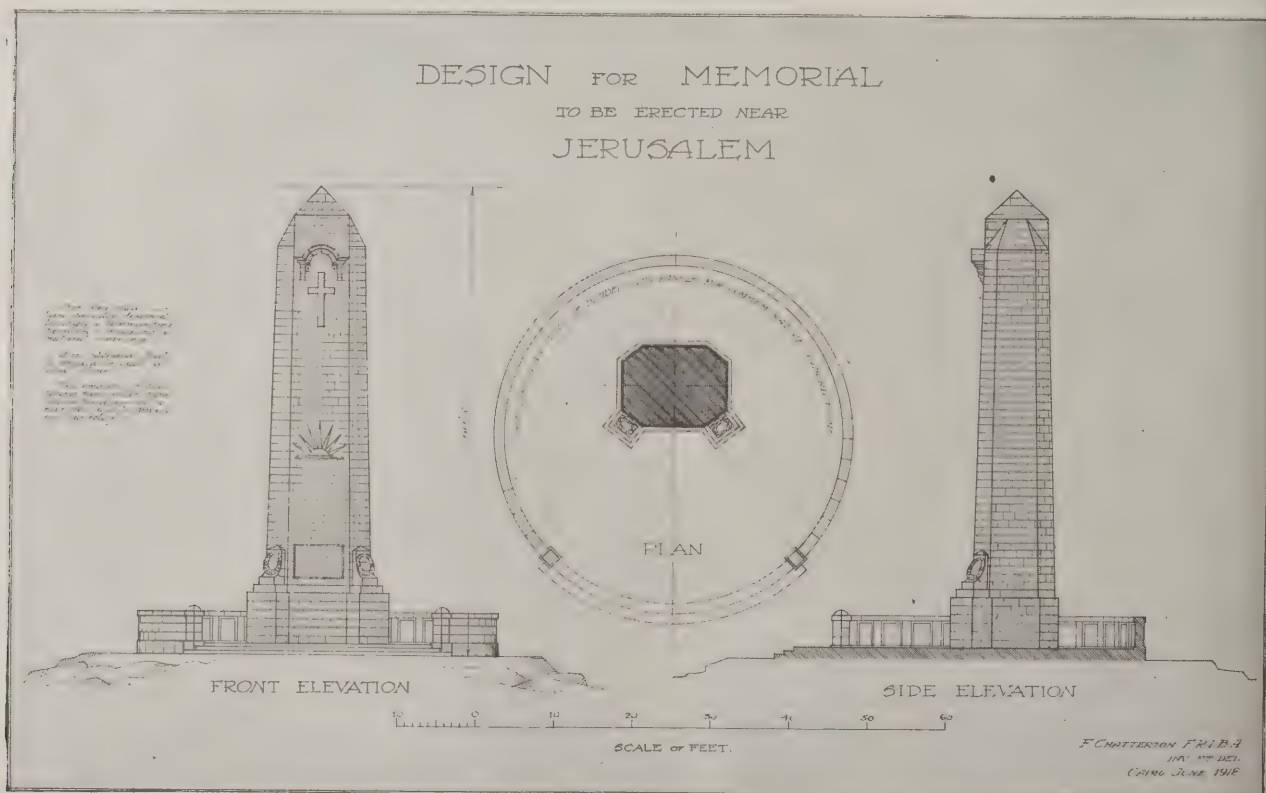
Mr. Thomas Dinwiddy, F.R.I.B.A., has given a donation of £1,000 in Five per Cent. War Stock to the Incorporated Benevolent Fund of the Surveyors' Institution. Owing to Mr. Dinwiddy's gift it has been possible to establish a new annuity of £50, which will be known as the "Dinwiddy Annuity." The annual report states that the total amount collected for the Special War Fund, through the appeal of the late Mr. Howard Chatfield Clarke, F.R.I.B.A., was £2,868 18s. 11d., to which must be added £438 12s. 4d. in respect of dividends and interest. The sum paid out in donations amounted to £1,189 8s. 6d. At the present time donations were being made in two cases only, and the committee had decided upon its amalgamation with the particular fund used in connection with ordinary distress

cases. Sir Alexander R. Stenning, F.R.I.B.A., has been re-elected a member of the committee of the fund, and Thomas Dinwiddy has been elected an additional member. Mr. Daniel W. has been re-elected honorary treasurer, and Mr. Alexander Goddard, C.B.E., secretary of the Surveyors' Institution, appointed honorary secretary.

DESIGN FOR A WAR MEMORIAL IN PALESTINE.

This design was submitted in response to an invitation extended to all members of the Egyptian Expeditionary Force. There were no restrictions as to cost, the site on which it was proposed to erect the memorial was in no way indicated in the published conditions regarding the competition, which included little more than the matter of guidance to competitors than an expressed wish for designs suitable for a "Memorial to the Fallen."

In view of the fact that large numbers of Mohammedan troops were among those who laid down their lives during the conquest of Palestine, it was a question whether symbolism of an exclusively Christian character should appear on such a monument. The author of the design, in all likelihood the memory of Indian troops would be perpetuated indefinitely, it would not be inappropriate to suggest an edifice in memory of Christian troops only. The powerful influence which Egyptian architecture sooner or later exercises over those who have been in the country, can admittedly be traced in the general treatment of the memorial, which was intended to occupy a commanding position on a natural eminence overlooking the city of Jerusalem. It was thought such a landmark would best be conceived in terms of simplicity bordering on severity, and that by imparting to it a character of studied reticence, its purpose could never be in doubt.



DESIGN FOR A WAR MEMORIAL. FREDERICK CHATTERTON, F.R.I.B.A., ARCHITECT.

NEWS ITEMS.

Broadstairs.

Broadstairs Council is having plans prepared for a new concert hall.

Al Institute as War Memorial.

It is proposed to erect a social institute bridge as a war memorial.

Church as War Memorial.

A new church dedicated to St. Andrew is being erected as Lowestoft's permanent war memorial.

Toronto Memorial Tower.

A memorial tower for graduates and students of Toronto University who died in the war is being erected.

Gloucester Hussars Memorial.

A war memorial in honour of fallen soldiers of the Royal Gloucester Hussars is being erected in the College Green, Gloucester.

University College for Leicester.

University College is to be founded in Leicester as a war memorial, and £70,000 has been promised, in addition to the gift of a site.

Agor (Ireland) War Memorial.

The War Memorial Committee have invited designs for a war memorial to be possible by an Irish sculptor, at a cost from £2,000 to £2,500.

Llandudno.

Plans are being invited for the erection of a new theatre which is to be built on the site of the Llandudno Market Hall. Hewitt is the architect.

Architect's Change of Address.

Percy W. Meredith, F.R.I.B.A., has moved his offices from 50, Cannon Street to 10, Rochester Row, S.W.1. Telephone: 6492.

Memorial for Lloyd's.

A war memorial at Lloyd's is a design prepared by Sir Edwin Lutyens, which it is intended shall be placed in a prominent position in the waiting room.

Nurses' Home for Lewisham.

Lewisham Board of Guardians have applied for plans for the erection, at a cost of £10,000, of a nurses' home in the grounds of Lewisham Infirmary and Workhouse, and intend to submit the scheme to the Local Board of Health.

French Architect's Success.

Henri Lurçat, born at Bonnières, Seine-et-Oise, has been awarded the first prize in the Grand Prix de Rome architectural competition, the subject set being the design of the League of Nations on the Lake Geneva.

Architectural Practice.

H. C. Mason, R.E., of Messrs. H. C. Mason and Son, of Ambleside, who has returned to England after five years in Mesopotamia and India, will shortly re-open his practice at Ambleside, with a branch at 17, John Street, London, W.C.

Chester War Memorial.

A war memorial for Chester it is suggested should provide a citizens' institute for recreation and improvement. The site is in Hunter Street, at a cost of £25,000. The building itself would cost like £25,000.

and Architectural Appointments.

At the last quarterly meeting of the Carlisle County Council, Mr. H. E. Carlisle, was appointed architect and surveyor at a salary of

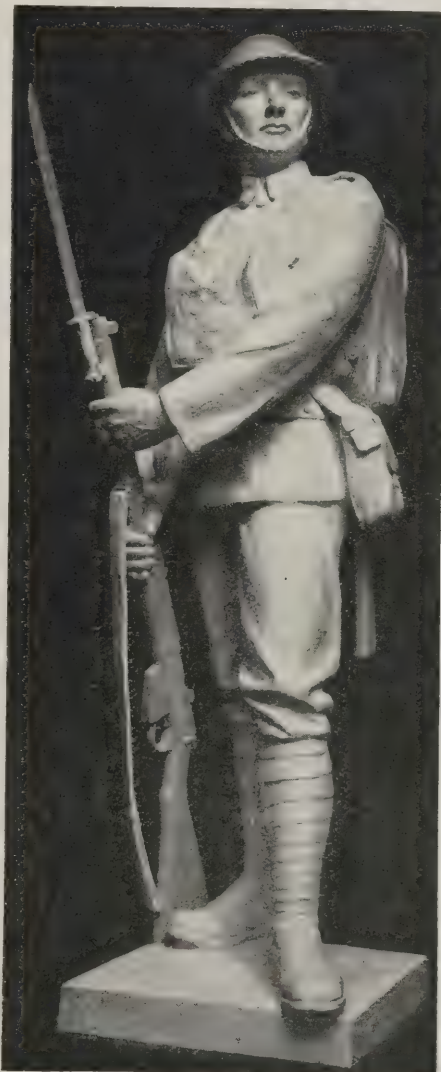
£100 a year and out-of-pocket expenses. The salary is to include all new work not requiring plans and not exceeding £1,000 in cost. For work costing more than £1,000 Mr. Ayris will be paid the usual commission. The County Council also appointed Mr. A. G. Chant, second assistant to the East Riding of Yorkshire County Council, as chief assistant to the Cumberland County architect.

The Sweet Uses of Advertisement.

As there is much virtue in the indirect method of lighting, so is there also in the indirect presentment of the light that may be radiated by means of advertisement. Messrs. Higgs and Hill are to be warmly congratulated on the skill and delicacy with which they employ "the channels of publicity." Always their advertisements are ingeniously prepared as infallibly to attract and fix attention by their shrewd philosophy, and by the very refreshing freedom from all taint of "puffery"; and it will be seen from the specimen appearing in this week's issue that wit and humour as well as wisdom have now been enlisted, the immortal Mr. Pepys having been pressed into the service with quaint and exhilarating effect.

War Memorial, Dukinfield.

The statue of a soldier illustrated below is to be erected as a war memorial at Dukinfield, Cheshire. The figure is being cast in bronze by the Albion Art Foundry, Fulham. Mr. P. G. Bentham, R.B.S., is the sculptor.



WAR MEMORIAL STATUE, DUKINFIELD.
P. G. BENTHAM, R.B.S., SCULPTOR.

TOWN DEVELOPMENT AND HOUSING.

Dolgelly.

Dolgelly R.D.C. have resolved to erect ninety-two houses.

Oldbury.

Oldbury, Worcestershire, has adopted a scheme for the erection of 1,315 houses.

Grimesthorpe.

A block of cottages has been erected at Grimesthorpe by Vickers, Ltd., of Sheffield, for their staff and workpeople.

Milngavie.

Milngavie T.C. have appointed Mr. William Inglis, I.A., and Mr. J. Austen Laird, both of Glasgow, as architects for the Town Council's housing scheme.

Lerwick.

The new housing scheme at Lerwick, Shetland Isles, embraces four hundred houses. Mr. Douglas Macmillan, architect, Aberdeen, has the plans in hand.

Mold.

Fifty houses are to be erected at Mold, Flintshire, at a cost of £40,000, and the Education Authority proposes to build a new school there at a cost of £30,000.

Halstead.

The R.D.C. have notified their intention of building eighty houses in the next three years, leaving 120 more to be erected as soon as practicable.

Sanguhar.

The T.C. have decided to erect thirty houses. The scheme consists of twenty-six three-apartment and four four-apartment houses. The architect is Mr. James Kerr, Lanark.

Rochford.

The R.D.C. have agreed to purchase five acres of Malting Field, Rochford, for a housing site. A lay-out plan for the erection of thirty houses on the site had been approved.

Motherwell.

The Scottish Board of Health have approved the plans in connection with the first instalment of the burgh's housing scheme, consisting of 212 houses of various types at a total estimated cost of £161,264.

Frome.

At a meeting of the Frome R.D.C. the Clerk reported that he had transmitted to the Housing Commissioner plans for eighty-nine houses proposed to be built at an estimated cost of £78,694.

Pickering.

The U.D.C. have passed plans for ten new workmen's houses—six to contain six rooms each and four to contain five rooms each. The estimated cost of the houses is £700 and £600 respectively.

Brighton.

Brighton T.C. have accepted a tender for the erection of twenty concrete houses at a cost of £16,712 12s. Fourteen will cost £851 7s. each, while the estimate for the six others, with flat roofs, is £798 19s. each.

Wooden Houses for Manchester.

The converting of forty-six huts in Heaton Park, Manchester, into ninety-two dwelling-houses will begin shortly. Ninety per cent of the houses will have three bedrooms, the remaining 10 per cent two. Each house will have a living-room, a

scullery, and a larder. Communal baths and washhouses, with hot-water appliances, will be provided, there being already on the spot erections that can be easily adapted to these purposes.

Hartlepool.

The Hartlepool T.C. have resolved to apply to the Ministry of Health for sanction to borrow £15,000 in respect of the purchase and cost of clearing sites, street drainage, and sewerage works in connection with the housing schemes.

Ayr.

Ayr T.C. have approved a housing scheme for 302 houses and eight shops. The houses will be of both the cottage and flatted types, and will include 128 of three apartments, 146 of four apartments, and twenty-eight of five apartments.

Alfreton.

The U.D.C. have decided to build twenty houses as a first instalment, and have agreed to apply to the Ministry of Health for permission to borrow £5,500 in respect of the building sites at Alfreton, £1,500 at Swanwick, and £1,450 for the purchase of the Somercotes Market Place.

Manchester.

At the Public Health Committee of Manchester attention was drawn to the slow progress of house-building work. It was said there were 450 bricklayers in Manchester, but only about forty of them were engaged on housing schemes. The others are employed on various operations, chiefly industrial.

Weston-super-Mare.

The U.D.C. are entering on the second instalment of their housing scheme, and has decided to invite tenders for the erection of eighteen houses. For the first instalment the tender of Messrs. Pittard and Son to erect seven houses, at an average cost of £876 per house, was accepted. Approximately 200 houses of this character are required in the town.

Linthwaite.

In addition to the fourteen houses which are already in course of erection, the Linthwaite U.D.C. have approved the architect's lay-out for thirty scullery houses, at an estimate cost of £520 each, and a bungalow type of house at an estimated cost of £460 each. These have been forwarded to the Housing Commissioner at Leeds for his approval.

Winchester.

The Winchester Housing Committee recently obtained tenders for the conversion of St. Giles Hill hutments into thirty-five dwellings; and applied to the Housing Commissioner for authority to accept the tender of Mr. W. T. Fennell (Winchester) for £5,750. The Housing Commissioner has now sanctioned acceptance of this tender, subject to certain modifications.

York.

We should like to draw the attention of our readers to the advertisement, which appeared on page xxvii. of our last issue, of Mr. Barry Parker, F.R.I.B.A., of Letchworth, Herts. Mr. Parker desires to have erected fifty cottages in the vicinity of York. The cottages must comply with the requirements of the Ministry of Health and be completed in three months.

Woking.

With regard to Woking's scheme for the erection of 200 houses, the Council recently applied to the Public Works Loans Board, as the money could not be raised locally, and received a reply that the Board could not grant the loan, as the rateable value of the district is over £200,000. The Council then appealed to the Ministry

of Health, who replied that no order had been made under which districts with a rateable value of £200,000 would not be allowed to borrow from the Public Works Loans Commissioners. This reply was forwarded to the Commissioners, who, however, adhere to their refusal, stating that they are precluded from granting the loan by a Treasury regulation. A further appeal is to be made to the Ministry of Health.

Fife.

The chairman of the Dunfermline District Committee of the Fife County Council moved at a meeting of the Committee that a deputation be sent to the Scottish Board of Health to consider certain aspects of the housing schemes of the committee, and with regard to the financial arrangements of housing schemes as a whole. He did not see how the Government could expect local authorities successfully to finance these schemes when so many of them would be in the market borrowing and competing with each other at the same time. It was incumbent upon the Government to make provision in a different way from anything they had hitherto done to discharge what was a national obligation. The only solution that occurred to him was the creation of a National Housing Loan, and he intended to put that view before the Board of Health. A deputation, including the chairman, was appointed to wait upon the Board.

HOUSING CONFERENCE AND PUBLIC WORKS EXHIBITION.

The housing conference of the Institution of Municipal and County Engineers, the Public Works Exhibition, and the Roads and Transport Congress and Exhibition will be officially opened to-morrow at the Agricultural Hall, London, and will remain open until Thursday, November 27. It is expected that a large number of municipal architects from all parts of the country will take part in the Housing Conference, which is receiving the support and assistance of the Ministry of Health. Special sanction has been given by the Ministry for the payment of the expenses of two delegates from each local authority.

To enable firms who deal with public bodies to exhibit their specialities, a portion of the Agricultural Hall has been set aside for a Public Works Exhibition. As regards this section of the Exhibition, the following are some of the chief exhibitors: Allied Machinery Co., Ltd., British Reinforced Concrete Engineering Co., Ltd., Hadfields, Ltd., Indented Bar and Concrete Engineering Co., Limmer and Trinidad Asphalte Co., North British Rubber Co., Ransome-verMehar Machinery Co., Ltd., Shell Marketing Co., Ltd., Stothert and Pitt, Ltd., Tarmac, Ltd., Townmead Construction Co., Cuirass Product, Ltd., Clarke, Hunt, and Co., Ltd., Expanded Metal Co., Ltd., Herbert Frood and Co., Ltd., Johnson's Reinforced Concrete Engineering Co., Ltd., London Warming and Ventilating Co., W. T. Lamb and Sons, Major and Co., Ltd., North of England School Furnishing Co., Ltd., Pudlo, Ltd., Pinchin Johnson and Co., Ltd., Parkinson and W. B. Cowan, Shannon, Ltd., Super Cement, Ltd., Thomas and Bishop, Ltd., Venes's, Ltd., Boulton and Paul, Ltd., Dixon's White, Ltd.

The Exhibition will close at seven p.m. daily.

WEEKLY HOUSING REPORT.

The return of housing progress weekly by the Ministry of Health is as follows:

The number of new schemes submitted to the Ministry during the week November 8 was 362, bringing the number of schemes submitted by local authorities and public utility societies to 6,240, comprising about 49,000 houses. The total number of schemes approved during the week, the excess over the average of former weeks being due to inclusion of large schemes from shire and the Midlands. Approved during the week to plans for in the following localities: Manchester (2,573 houses), Birmingham (2,500 houses), Liverpool (2,000 houses), Wolverhampton (1,000 houses), Bolton (700 houses), Salford (450 houses), West Bromwich (450 houses). The number of houses included in the plan schemes submitted is now 43,290 and in the schemes approved 43,290. The number of negotiations on behalf of local authorities for the purchase of sites for housing successfully completed during the week was 1,157. The total amount asked for sites or provisionally agreed to by local authorities was £1,673,145. The total finally agreed by the Valuation Department to be paid was £1,264,054, saving of £409,091, or 24.4 per cent. The figures on the average per acre are: approved schemes, £243; agreed to by the Valuation Department, £184; saving of £59.

Details of the schemes of local authorities dealt with during the week are as follows:

Building Sites.

Schemes Submitted.—The number of schemes submitted during the week was 359, comprising 1,224 acres, bringing the total number of schemes submitted by local authorities to 6,160, comprising approximately 46,000 acres.

Schemes Approved.—The number of schemes approved was ninety-two, comprising about 22,800 acres.

Lay-Outs.

Schemes Submitted.—One hundred and three schemes were submitted during the week, bringing the total number of schemes submitted to 6,240.

Schemes Approved.—Sixty-two schemes were approved during the week, bringing the total number of schemes approved to 784.

House Plans.

Schemes Submitted.—Nine schemes and five part schemes, representing 12,209 houses, were submitted during the week, bringing the total number of schemes submitted to 54,025 houses.

Schemes Approved.—Eighty schemes and four part schemes, representing 12,286 houses, were approved during the week, bringing the total number of schemes approved to 42,384 houses.

Conversion of Temporary Buildings.

Up to November 8 fifty-five local authorities had applied for permission to provide housing accommodation by the conversion of temporary buildings. The conversion had commenced on 271 tenements, and 102 tenements are occupied or ready to be occupied.

Architects' Journal
Day, Nov. 26, 1919

The Architects' Journal
Volume L. No. 1299

THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS

With which is incorporated "The Builders' Journal."



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Government, the Builder, and the Housing Subsidy

ident that by giving rise to a temporary misunderstanding that was very dangerous while it lasted, and strongly accentuated the demand for the removal of industry from all abnormal Government action, the refusal last Thursday of the Minister of Labour to ratify the new rates of wages agreed upon by employers and operatives in the London building industry.

The facts of this extraordinary case admit of no statement. On November 4 the National Conciliation Board decided, after due deliberation, to increase wages of 2½d. and 3d. an hour to skilled and unskilled labourers respectively. This decision was sent to the Minister of Labour for ratification on the same day. From November 5 to November 17 is a period of thirteen days, but it was not until the latter date that the Minister of Labour informed the Federation of Building Trades Employers of his intention to refer the matter to a Court of Arbitration.

It was stated that the Court of Arbitration met on Friday last, November 21, but on the previous day the Court of Arbitration sent a telegram to the Minister of Labour stating that this meeting had been cancelled, the reason being that a decision could not be reached before the expiry, on November 21, of the Wages (Temporary) Regulation Act, 1918-19. When this delayed discovery was communicated, at the Minister's figuratively speaking, but actually in the afternoon of Thursday last, to the representatives of the employers and the operatives, astonishment, not to say indignation, was expressed in both camps; and the London Master Builders' Association sent to the Minister of Labour a telegram in the following terms: "The council of the London Master Builders' and Aircraft Industries Association, having learnt that Court of Arbitration was intended to deal with your reference regarding wages, desire to impress upon the Minister of Labour that in informing the operatives that advances will be made, and any responsibility for labour troubles will be placed on the Minister owing to his refusal to give his sanction in favour or otherwise, seeing the National Conciliation Board award was given on November 4, a copy of this telegram is being sent to the operatives' Federation and the Press."

Not only the dilatoriness of the Ministry and the action of its Court of Arbitration created a situation of considerable embarrassment, which was not the less so at the time, though it turned out afterwards to be due to a misapprehension which the Ministry had been more prompt to remove. Between 50,000 operatives in the London area were unemployed; and their annoyance and discontent might have been heard throughout the country.

On Saturday morning we received a long statement on "Building Trade Wages" from the Ministry of Labour explaining the whole matter from their own point of view. What was at the bottom of this strange conduct on the part of the Ministry of Labour and its Court of Arbitration is difficult to conjecture. Was it due to a misapprehension that the passing of the Industrial Courts

Bill (about which we shall have more to say on a future occasion) would render ratification superfluous? Probably the case is far less simple than it seems to be. That it is considerably complicated by several sorts of labour difficulties may be inferred from the published statement that certain sections of workers in the building industry are deserting it wholesale for more lucrative labour in the shipyards, and that where, for this reason, building trades employers have been compelled to raise wages in order to keep their men, workers in other areas have demanded to be placed on the same level; and the unwillingness—or the unfortunate contretemps that conveyed the impression of unwillingness—of the Ministry of Labour to ratify the increase of wages agreed upon by the Conciliation Board was freely—and, we trust, quite erroneously—interpreted as a symptom of the Minister's reluctance to make private building competitive in the matter of wages, with Government employment, or employment, such as ship-building, in which the Government is more or less directly interested. That insinuation is every whit as unworthy of a moment's thought as the suggestion that masters and men in the building industry are in a conspiracy of profiteering—a vile suspicion that both sections are treating with deserved contempt. It need hardly be said that we are thoroughly convinced of the good faith both of the Ministry and of the organised representatives of the building industry; these idle rumours are mentioned merely to show that we are aware that they are in circulation, and to indicate our confidence that to drag them into the daylight is to kill them. To contradict them were utterly superfluous, but to suppress as mere idle tittle-tattle, as they undoubtedly are, might have caused misconception.

But to credit the Ministry with common honesty is not to absolve it from the charge of dilatoriness so inopportune that it might have caused an entire cessation of building work at the very moment when national needs are clamouring for the exercise of its activities in fullest measure. It is as if the Ministry of Labour were incapable of realising that their cavalier attitude was extremely likely to exasperate the entire industry, masters and men, and, indeed, to stir up labour unrest throughout all the industries at the precise point of time when Labour seemed disposed to settle down steadily to the work of reconstruction. But the most recent pronouncement by the Ministry (on Friday afternoon), is that "owing to the alteration in the Wages (Temporary) Regulation Act, no question of approving the decision of the Conciliation Board arises."

What happened in the House of Commons last Friday, however, swept the interest in the Labour Ministry incident aside, Dr. Addison's eagerly anticipated declaration on housing absorbing everybody's attention. His speech consisted largely of explanations of the delay in starting to build. Although the Housing Act had been in operation only four months, he said, his Department had approved 24,000 acres of land which had been properly planned for housing, and most of the

24,000 acres which the Department was still considering would be accepted; while a careful revision had reduced by £80 the price per house.

But the main interest in Dr. Addison's speech centred in his announcement that, to attract builders who at present found other classes of work more profitable, the Government proposed that any person who built a house of an approved type, properly laid out, would receive a subsidy amounting to not more than £150 per house: this offer to be limited to a certain number of houses to be built within a limited time—namely, a twelvemonth; while some instrument wherewith to cut the Gordian knot had become an imperative necessity, whether the £150 subsidy meets the requirement quite adequately is very doubtful. It seems to us that the Government are doing now, in a half-hearted fashion, what they ought to have done boldly at the outset. As Mr. J. W. Lorden said in course of the debate, "if private builders had not been turned down by the Government, they could have had houses ready by Christmas"; while, speaking in the same strain, Captain Pretymann declared that the Government, instead of depending upon local authorities, "should have set the building industry in motion, and asked the local authorities to supplement the work of the building trade." The Federated builders, Dr. Addison said, had undertaken to finish a thousand houses of four different types by next June, and in all three thousand houses were in contemplation under this arrangement.

Dr. Addison is to be warmly congratulated on his determination to see to it that, by whomsoever the building is done there shall be no single addition to the sum-total of the slums, and no reversion to the bad building which but a decade ago was thought good enough for the poor; and one would have been glad of a positive assurance that the subsidised private builder would

always be supervised by a properly qualified person. This might be inferred as a matter of course, not for the speculating builder's inveterate and bad habit of eliminating the architect. Another item was the vague threat that, in order to get housing, it would be necessary "to take steps towards luxury building during this crisis." Prohibition be left in the hands of the local authorities, but by no means the better for that. Dr. Addison, in course of his speech, rendered lip-service to the ideal of freedom, but his declared policy contradicted this expressed opinion. Talk about freedom is not itself, any more than talk about housing is the provision of substantial dwellings, whether of brick-and-mortar or on any of the newer systems of construction which we applaud the Ministry for encouraging, for its promise to encourage, which is not quite the thing, but inspires hope that at least the Ministry is receptive and sympathetic mind. The Prime Minister's subsequent remark, in the same debate, that the Government had come to the conclusion that an appeal might be made to "the great industry which, up to the present, has supplied houses for the industrial population of the country and bring it in," was an eleventh-hour attempt to urge, and almost pestered to do at the outset. Lord Cecil said, "The only way to get the cheapness of houses was to get the co-operation of the building business it was to produce cheap houses."

No doubt the subsidy is a triumph of common sense and a victory for the Federated builders, who now press with equal energy—and we trust with success—for the removal of all Government restrictions on building operations and of all restrictions on the industry. Given this freedom, the industry will be in a position to relieve the Government of all its housing worries.

Notes and Comments

The President of the R.I.B.A.

ARCHITECTS in general and members of the Institute in particular will be very sorry to hear that Mr. John W. Simpson, P.R.I.B.A., has to relinquish his presidential duties for the next three or four months on account of ill-health. Of late Mr. Simpson has been far from well, and we deeply regret to learn that he is now threatened with the beginnings of diabetic trouble. His medical advisers, Dr. Arthur Whitfield, of Harley Street, and Dr. A. B. Beddard, of Guy's, tell him it is imperative that he should take a long rest and keep perfectly free from worry. By taking these precautions, and by adhering to a strict diet, it is hoped that Mr. Simpson may retain his health and vitality. This hope, we are sure, will be shared by the entire profession, for Mr. Simpson is surely one of the most popular presidents that the Institute ever had. Mr. Simpson only knew of his doctors' decision on Monday week last, when he immediately conveyed it to the Council of the Institute, who, of course, were deeply concerned at the bad news, but, naturally enough, were only too willing to give the required leave of absence. To be deprived of their leader at one of the most critical periods in the history of the Institute is frankly a misfortune, but, as Mr. Simpson himself said, when we had the pleasure of a brief chat with him a few days ago, "they are a splendid lot, and the best Council that a president could possibly wish to have." It is a foregone conclusion that they will "carry on" supremely well under the leadership of Mr. Walter Cave, senior Vice-President, until Mr. Simpson is again able to take up the cares of office. Mr. Simpson, we are sure, has the heartfelt sympathy of the entire profession, on whose behalf as well as our own we wish him a complete and speedy recovery.

Housing in Ireland: State Recognition of Architects

It is gratifying to note that housing in Ireland will be supervised by architects. That is the purpose of a special circular that has been sent to the local authorities by the Local Government Board following the decision of the Board and the circular announces also the Board's decision to form a panel of architects qualified for employment in the housing department, and that to this end they have established a joint committee comprising four members of the Local Government Board, two members of the Housing Committee, and two architects selected from the list of architects of the Council of the Royal Institute of Architects of Ireland. Architects who are employed by a local authority on its housing work must first satisfy the Board as to their qualifications. This circular marks another considerable step towards complete State recognition of the architect. To assume that this appreciation of the architect's contribution to the housing movement would be to underrate the importance of the architectural organisations, to whom, therefore, the hearty congratulations of the entire profession are due. And only in one way can the gratitude of the profession be adequately expressed. What that only way would be is banal to specify. It will be seen from a letter from Mr. McArthur Butler which appears on page 10 in this issue that the omission of the Architects from the list of institutions specified in the Order has now been rectified. In the Order relating to the service of the Government will be eligible for employment on a housing scheme; and if any person not so selected by a local authority to discharge the duties of an architect in connection with their housing scheme is furnished with evidence of his qualifications as an architect to the Housing Department, for the purpose of

the Joint Committee. In some instances a town may be thoroughly qualified to perform the larger part of the work but may lack some of the conditions necessary for his appointment as an architect—such a case a qualified architect may be called in for assistance.

St. George's Chapel, Windsor.

struction in the most material sense has become obsolete, and, in fact, is in operation, at St. George's Windsor. It has been found necessary to shore up the roof, which was in imminent danger of falling, the timbers having fallen into decay. These must be replaced and it will be necessary to restore much of the tracery. St. George's Chapel is unquestionably one of the most stately examples of ecclesiastical architecture that the kingdom can show; but, independently of its historic value, its peculiarly intimate association with the country's history compels the most anxious consideration for its safety. It stands on ground of ancient tradition, for a royal chapel stood there in the days of Henry I., and excavations have brought to light fragments of genuine Norman work—probably of the twelfth century. The existing chapel was begun in the reign of Edward the Fourth.

Wooden Houses.

In recent investigations it would seem that wooden houses do not completely solve the housing problem. The opinion of many experts is that wooden houses are not physically inferior in every respect to those built of substantial material, but, in the long run, are much dearer. Even in first cost they are but slightly cheaper, and the cost of keeping them weatherproof is not inconsiderable. At last, about the dearest type of house that has been devised. Then the risk of taking fire, and the danger and completeness of destruction when fire occurs, render exceedingly mischievous the "stunt-money" irresponsible clamour to have them built. Moreover, the boards not only become verminous themselves, but are very absorbent of the germs of human diseases besides harbouring swarms of vermin. That they are often of quite a repellent external appearance is shown conclusively in the December issue of the "Architectural Review," in which a large number of wooden houses, old and new, of various nationalities—English, American, Dutch, Scandinavian, etc.—are beautifully rendered, by Mr. S. C. Rowles, in a clever pencil drawing, by Mr. S. C. Rowles, in a series of charming cottages at Epsom forming the subject of the piece. Other interesting contents of this issue of the "Review" include a finely illustrated account of the Tigsell, in Sussex; a rather startling exposure, by Mr. J. Lawrence, of certain inveterate misconceptions regarding the Old Duke's Theatre in Dorset—"the first English Theatre having claims to be considered architecture in the proper and noble sense of the word"; a clever lay-out scheme for solving the traffic problem at Croydon without disturbing the Whitgift Road; half a dozen masterly drawings of terraces in Hyde Park and an account of the artist who made the Thomas Hosmer Shepherd; and a fine rendering of John's College with the bridge, at Cambridge, by Mr. Fletcher.

Tramways and the Traffic Problem.

Unopposed opposition is being offered to the London Council's tramway extension schemes, and it is only by the proposals to run tramways through Whitehall Street and through Hyde Park. There is much contention that, so far from relieving congestion, tramways actually render it more complicated. For this reason the proposed Victoria Street extension is strongly opposed, and the objectors have a strong argument in the probability that in a very short time the tramway system will be superseded by

motor methods that will be at once more mobile, less obstructive, and cheaper of maintenance. As if riding for a fall, the L.C.C. is now raising the very awkward question of whether they should not be relieved of the enormous cost of maintaining in repair the tracks over which their cars run. These tracks, having been necessarily much neglected, have got into a shocking state of disrepair, and the cost of putting them in order will be a staggering blow to the overburdened ratepayer. To draw attention to these facts is to raise the question whether tramway lines in the streets should not be altogether abolished in favour of a shallow tube system which, besides affording immense relief to the ordinary vehicular traffic, would greatly reduce the number of accidents inseparable from the present system.

Hyde Park Threatened.

To run tramways through Hyde Park would be sacrilege, and the proposal to do so has provoked an outburst of anger similar in vehemence to that which, a few years ago, greeted the proposal to desecrate Blackheath in the same way—an incident that should convince the L.C.C. of the fatuity of flying at still higher game. If the tramways were admitted through Hyde Park, the same privilege could not be long denied to the motor omnibuses, and then farewell amenity. It is very evident from this and other incidents that the custodians of London's communal interests have but a very inadequate conception of the functions of a park. It should be a blessed refuge from the reek and turmoil of the Babylon that compasses it about, and to introduce the tramway and the odoriferous motor bus amidst the green pastures is to bring the serpent into Eden.

An Old Coaching Inn.

Soon all the old coaching inns will have been either demolished utterly or else improved out of all recognition. What will happen to the old Swan Inn at Bedford, now that it has changed hands by "private treaty," has yet to be made known. As it has long been called the Swan Hotel, there is every prospect that it will continue to fulfil the functions that it was exercising in 1661, when Bunyan's judges assembled there; where one can imagine their bemused discussion of the Inspired Tinker over a magnum of right Oporto or flagon of home-brewed. But the old inn was demolished in 1794 and the present hotel was built from material got from Houghton Conquest House, which the Duke of Bedford had caused to be pulled down. The Swan was a standard house of call for the London coaches running through Bedford to the North and back; but on November 21, 1846, the famous Bedford Times coach made its last journey, having been superseded by the London and North-Western Railway's branch line to Bedford. It was then, perhaps, that the Inn became an hotel, the railways usually effecting this outlandish change in nomenclature, besides driving the coaches off the turnpike road.

"The Architectural Review"

The December issue of the Review will be a special Peace Commemoration number, including, among its very large number of illustrations six coloured plates, showing respectively the Chapel of St. Michael and St. George in St. Paul's Cathedral, a fine rendering of the Cenotaph in Whitehall, and four finely coloured drawings of the peace decorations in the Mall and at Whitehall. The cover illustration has been specially designed by Mr. Frank Brangwyn, R.A., and the letterpress includes important contributions from Viscount Grey, Lord Robert Cecil, Sir Aston Webb, P.R.A., Mr. John W. Simpson, President R.I.B.A., Major Barnes, M.P., Major David Davies, M.P., and Professor Abercrombie, M.A.

Architectural Causerie

THIS week I am continuing the discussion of London street nomenclature, and turn my thoughts again to the City. Charter House, or Chartreux, takes its name from the monastery which was dissolved by Henry VIII. on the principle "down with the nests and the rooks will fly." Cannon Street was in ancient days Can-wick or Candlewick Street, it being the residence of the candlemakers. Some there are who believe that early engines of war were made in this street, while others opine that some of the Canons of St. Paul's had their houses in the street; the latter is certainly a reasonable theory.

Cheapside, in name alone, perpetuates the memory of the ancient market held there, but the modern shops continue the tradition. In the Saxon it is called Chepe, and was sometimes called West Chepe, as opposite to East Chepe, which crosses Gracechurch Street. Clerkenwell, or Clerke's Well, is where the clerks of London were accustomed to meet annually for the purpose of enacting sacred dramas, selected from the histories of the Holy Scriptures. In the late eighteenth century Clerkenwell became famous as a quarter for the horologists; there is the hint of the shape of a bracket clock in the design of the steeple of Clerkenwell Church, and many signs of the old and peculiarly English industry of clock-making can be obtained by those endowed with seeing eyes. Carter Lane was so named on account of being occupied by stables for the horses of carmen and waggoners.

Crutched or Cross Friars connotes an order of Friars who settled here from Italy in the twelfth century, and surprised the Londoners by demanding a house to live in, asserting that they were privileged by the Pope to excommunicate those who doubted them. Ralph Hosier and William Sobernes were prevailed upon to give the Friars a house, and soon after joined the brotherhood. The Hall was destroyed by fire thirteen years before the Armada passed Plymouth on its way to Calais Roads.

Cripplegate is so named from the church of St. Giles, who was esteemed to be the patron of cripples. All the cripples and beggars of London at one time made this part their rendezvous, soliciting charity at this entrance into the City. Milton is buried in this church, and there is a fine pedestal from the pencil of Mr. Rickards in the churchyard. Whenever I visit the old church and chance upon a lame vendor of matches standing near the gate I am transported back through the centuries; the surrounding houses assume the framings and gabblings of the past, and I seem to see all sorts and conditions of beggars and cripples waylaying the good citizens. From Milton's burial place I will direct attention to Chiswell Street, so called from the fact that Richard Chiswell, "The Metropolitan Bookseller of England," who never printed a bad book or descended to the use of bad paper, had his house there. Mr. Chiswell shuffled off this mortal coil in 1711, and rests in the Church of St. Giles. Another packet of street names is hereby neatly tied up, so that's that.

When I discussed the nomenclature of the old streets of London with my architect crony I had no idea that the ground covered would involve such a task of penmanship to get it ready for the printer. Here we reach the letter D, and I am beginning to experience the trials of the editor of Kelly. Duke's Place, Houndsditch, marks the site of a priory founded by Matilda, Queen of Henry I., in the eighth year of the twelfth century.

With other establishments this was dissolved by English Bluebeard, who granted the estate to Thomas Audley, subsequently Lord Chancellor, dying here in 1554, left his daughter sole heiress the marriage of this lady with Thomas Duke of Norfolk it became the property of the Howards; hence the Duke's Place.

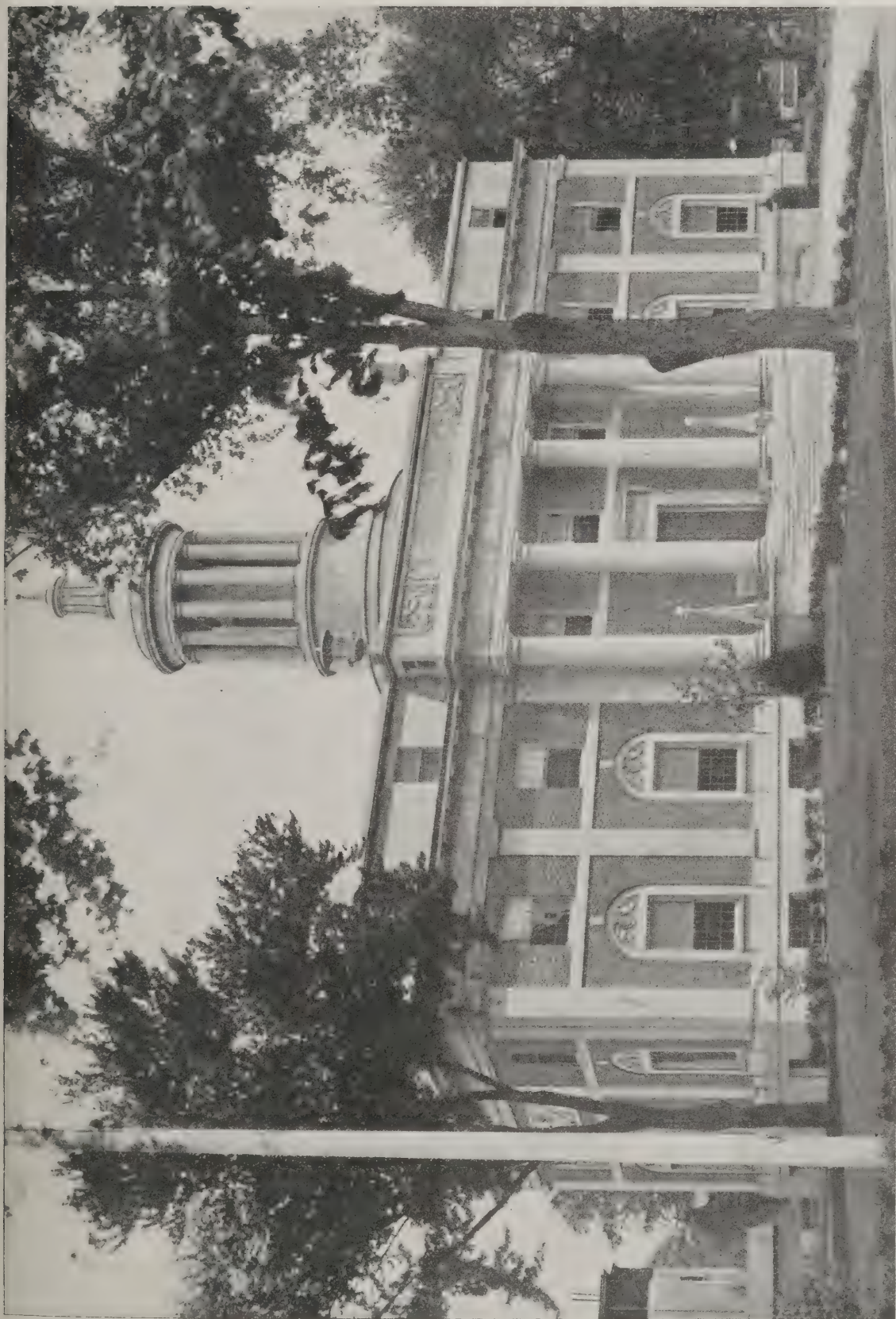
Drury Lane, and all that pertains to the haunts of Mistress Eleanor Gwynne, owes its name to Sir William Drury, who commanded in the Irish. In his house, Essex, Elizabeth's favourite, is said to have plotted. Doctors' Commons takes its name from a college of students of civil and ecclesiastical law. From 1383 until the instituting of the public office Somerset House wills have been registered there, doubt not but what the segmental pediment over the window of Godliman Street has witnessed many a man in quest of a marriage licence.

Exeter Change has long ceased to exist; even the Old Hall has departed from the Strand. At one time the Treasurer Burleigh had a great house on this spot, died there in 1508. His son, inheriting the estate, called the place Exeter House. A hundred odd years later there was a show of wild beasts in the upper part of Exeter House, and a sort of Burlington Arcade flourished below. Who to-day would associate the name of Exeter with Pavement, Square, and district with the morasses? Yet in former times it was called Fen Moorgate signified the gate to the bleak moors of Finsbury. Highgate and the north. Fleet Dyke, or Fleet, was the name for the Fleet River, a navigable tributary of the Thames, of which merchant ships took advantage as far as Holborn Bridge.

Friday Street, Cheapside, is so named on account of its proximity to the old fish market, and the fact that in mediæval times it was at its busiest on the fifth day of the week. Fenchurch Street takes its name from the fenny or marshy ground and the waters of the Fenchurch stream; hence the title Langbourn Ward. It is strange how we associate the modern terminus with the marshy lands of Essex, such is the curious association of names and their bearing on the character of places.

Gray's Inn was a house belonging to the Gray family of Wilton, who resided there from 1315 till the reign of Edward III., when they demised the property to the legal fraternity. Grub Street, a corruption of Groat Street, became in the time of Addison the prototypical residential district of needy scribblers. There are still Grub Streets in these days, some of which fringe the Crown lands of Regent's Park. Grocers' Alley, a narrow passage leading from the Old Jewry, was at one time known as Coney Hope Lane, from being a place where the market for coney was held. Gracechurch Street is supposed to have derived its name from being formerly the market for grass; other streets, such as the Poultry, Poultry Street, Fish Street Milk Street, etc., having obtained their names from the commodities sold in them.

Green Arbour Court, near the Old Bailey, and the coal Lane, down Break-neck steps, had the honour of sheltering Goldsmith when he penned "The Vicar of Wakefield" and "The Traveller" in 1759. Poultry Court derived its name from a garden in which the poultry was reared. The name Seacoal is obviously derived from the fact that the colliers brought coals up the Fleet River, the tax on



MUNICIPAL BUILDING, PLAINFIELD, NEW JERSEY. LAURENCE F. PECK AND W. LAWRENCE BOTTOMLEY, ARCHITECTS.

LIBRARY
OF THE
STATE OF ILLINOIS

Paul's was building being well known. Owing to breaking its neck on the steps the title Breakers was coined.

St. Paul was at one time a village called Oldbourne, a stream which started from a place near the houses of Staple Inn, and ran down the street to the Burnt Bridge, and so to swell the waters of the River. I know this stream still continues its course through the brick sewers, and meets its old friend from the East End underground. Hicks Hall is a title to which, for all the milestones on the northern and eastern roads are spaced from the place where Hicks Hall formerly stood. Tradition assigns the site to have been in St. John's Street, facing West Smithy. Sir Baptist Hicks built the place long before he was Viscount Campden, and at the time when he was a merchant of Cheapside. The noble builder died in 1629, and did not live to see the troublous reign of the first Charles to its completion. I never view the Hicks House in Clerkenwell without thinking of

Hicks Hall, and when I am inside the General Post Office in Edinburgh I know it to be 396 miles from the place where Hicks Hall formerly stood.

Harley Street derived its name from an Earl of Oxford, who encouraged the building speculators of the late eighteenth century to build on his ground. Houndsditch, leading from Bishopsgate to Aldgate, obtained its name from the number of dead dogs and other animals flung into the ditch to rot away. It is said that this noisome ditch received the body of Edric, who murdered his master William Ironside, after he had been drawn through the streets of London by his heels. And so, as the diarist puts it, we come to Hangman's Gains, a very old lane, formerly near the Tower, originally named Hammes and Guisnes, from a number of people who formerly lived at those places, but took refuge in England after the loss of Calais. As I have seventeen more letters of the alphabet to deal with I must continue next week.

AERO.

The Housing Impasse

By MAJOR H. BARNES, M.P., F.R.I.B.A.

THE carrying out of the housing policy of the Government has now reached a stage when at least some of the difficulties that it must encounter can be visualised. They are already sufficiently visualised to have led the Government to consider some change in their policy.

This will have been announced by the time this article appears in print, and I shall not attempt any premature anticipation of their proposals. What I wish to indicate is the inherent difficulties which any proposal must take into account.

The outstanding fact of the situation is that to build houses for the working-classes in conformity with the present-day opinion involves a cost per house of from three to four times that which would have been required in pre-war times. Under ordinary conditions such a cost would have led to, if not the abandonment, at least the postponement of the housing programme to a time when either the cost had fallen to nearer pre-war level or when adjustment in wages had allowed for and permitted the payment of an economic rent. Postponement, still less abandonment, is, however, an impossible step to take. There is probably no pledge upon the fulfilment of which the credit of this Government is more dependent than the carrying out of their promised housing programme. The Government, strong and stable as it may appear, has, nevertheless, in opposition to it forces determined to secure its overthrow, and nothing would so seriously weaken such forces so formidable as the announcement by the Government that, owing to circumstances over which it had no control, they were obliged to put aside, at least for the time, their housing programme.

Housing must go on in spite of the difficulties which it faces. Let us see what these difficulties are, and how they arise. The first thing to observe is that the housing of the working-classes has been in the past not a main concern, but a by-product, of the building industry. Houses have been built mainly out of the surplus of building operations. Neither the best design, the best material, nor the best labour has been employed in them. In the architect's office the plans for working-class houses, if prepared at all, have been relegated to the junior staff. The materials used have often been of a quality which would not be accepted and passed by any respectable person employed in supervising the construction of any building. No one would contend that the best workers in the building crafts have either sought or been given continuous employment on this class of structure.

The working-classes, if they have been clothed in "shoddy," have been housed in "shoddy," and it is a

fair analogy to say that the effect of the Housing Act upon housing is like that which would be produced by an Act which enacted that, whereas in the past the workers had been clothed in cotton, they were in the future to be clothed in silk.

Houses of the standard required under the administration of the Housing Act cannot be produced by the speculative builder. That requires to be recognised at the outset. They call for the exercise of superior design, superior material, and craftsmanship than have been employed in the past, and if there had been no rise in prices occasioned by war conditions the fact remains that housing under this improved standard would have cost at least 50 per cent. more than houses of equal cubic contents erected by the speculative builder.

Unfortunately for the solution of the housing problem, this demand for an improved standard in house construction synchronises with the high prices produced by war conditions. The result is to be seen in the tenders which are now being obtained, showing amounts exceeding by two or three times the cost of those erected prior to the war.

If we are agreed that housing must go on, we have now to decide whether we will abandon the improved standard and revert to that of pre-war times. In other words, give up the idea of building by contract under supervision, or, if we will not do this, we must face the increased cost.

Let us consider the first alternative. Keeping in mind that we have determined to secure the supply of houses that we want, we are now confined to obtaining them from the source of supply which existed before the war, viz., the speculative builder. Speculation, however, will not take place without the inducement of profits on sale or high returns on investment. The speculator's path to both of these is barred by the Rent Restriction Act. That Act prevents an economic return, much more any prospect of those windfalls in profit and interest, which are the lure to the speculator. The fact had better be faced that we cannot get the houses we want from the speculative builder, even if we were disposed to accept such houses, unless we repeal the Rent Restriction Act. That is not a proposal which, I think, will be likely to be accepted by this or any other Government.

There is, indeed, no logical reason why those who supply food should be allowed to charge twice or three times its pre-war cost, while those who supply shelter are debarred from so doing, but it is equally certain that, pending the provision of the houses now required, repeal

of the Rent Restriction Act would lead to such a steep rise in rents and a consequent disturbance of tenancy as would produce a political situation in this country of the gravest character. We seem, therefore, to be in this dilemma, assuming that we turn this matter over to the speculative builder, that until he provides us with the houses that are required we cannot repeal the Rent Restriction Act, and until we repeal the Rent Restriction Act he cannot provide us with the houses that are required. Ingenious suggestions have been made which amount, when analysed, to this, that retaining the Rent Restriction Act the State should give such bonuses to the speculative builder as will induce him to proceed. As far as one can see the adoption of such a proposal would mean that, while abandoning the improved standard of housing now demanded, the cost to the taxpayer would be little, if anything, less.

We turn back, then, to face the alternative of maintaining the improved standard of housing and proceeding to erect by contract under supervision. The bold course would appear to be frankly to accept this position, to expend the money, to retain the buildings so erected either as local or national property, and when prices have settled down to their normal level, to write off the excess cost. In effect it means that the solution of the housing problem involves an addition to the National Debt, and, in my opinion, no schemes, however ingenious, will get us out of this position.

One word in conclusion. It is clear with regard to the organisations in the building industry of architects, employers, and workmen, they have in the past been concerned with buildings mainly carried out by contract and under supervision. The housing of the working-classes did not come within the scope of their work. It

has now been brought in, and they are asked to give precedence over their normal occupation. That is a serious position. Many of them feel that the commitment of improved industrial and commercial undertakings is being delayed by the control which the Government is exercising over building materials in its endeavour to secure these for the completion of its housing schemes. No one knows exactly what is taking place. The Ministry of Health is itself preparing to compelling local authorities to prepare schemes for housing. The Ministry of Munitions is dealing with the supply of building materials. The Ministry of Labour is concerned with the question of labour. There appears to be no co-ordination of the problem as a whole. The Ministry consults as it feels necessary and thinks fit with representatives of the various organisations in the building industry. In my opinion the problem will not advance much towards solution until a committee is formed upon which representatives not nominated by Ministers, but appointed by the professional, commercial and industrial organisations of the building industry, together to deal with the problem from every side.

Apart from our private interests, we are all concerned as citizens to see that this big task of housing the working-classes is satisfactorily performed, and the building industry, one of the great staple industries of the country, sets once more on its normal course. When the Government call together the presidents of the professional organisations concerned, of the Federation of Master Builders, of the Federation of Building Organisations, for a common consultation, I shall believe that has done all that can be done and ought to be done to discharge the self-imposed responsibility which rests upon it.

The Plates Described

The Municipal Building, Plainfield, New Jersey.

THE selection of a stylistic expression for the Plainfield Municipal Building was a happy one—a frankly Americanised version of Italian Renaissance, skilfully modified to conform with the general simplicity and unaffectedness of the whole scheme. The mass is agreeable, with its dignified colonnaded cupola crowning the composition, and set so far forward as to escape the danger of partial eclipse in perspective. This cupola, studied as an integral part of the front elevation, is thus seen from the level of the spectator almost exactly as it appeared on the direct elevation drawing. The columns of the portico are exceedingly dignified, and the needed interest of detail is added by the pleasantly Italian doorway and its flanking candelabra.

The plan is a counterpoint, in consistency and simplicity, of the exterior. The stairway ascends by two flights directly in line with the entrance, and to the left of the central lobby are placed the mayor's office and private rooms and the library (also available as a private meeting room). The introduction of special furniture should serve as a demonstration of the excellent result secured as compared with the dismal installations of commonplace office furniture more frequently seen in public buildings. The first-floor plan provides for a large "public committee room," at the front and centre, located between the court room and the council room. All three rooms may be thrown into one in case of "overflow meetings," by means of folding partitions. Our illustrations are from the "Architectural Forum."

Premises for a Motor Car Company, New Bond Street.

The reproductions illustrate some new premises acquired by Messrs. Sutherland Pilch, Ltd., at 141, New Bond Street, one of several shops taken in this district for the sale of motor cars. The premises comprise a ground floor and basement, and the conditions involved the avoidance of a lift. In consequence, advantage was taken of the fall of the land to the rear, in Bloomfield Place, and a sloping way was made into

the basement from the rear exit. The architect for the plans and decorations was Mr. Albert E. Butler, A.R.I.B.A., of the firm of Messrs. Albert E. Butler and Jeeves, 141, New Bond Street. Messrs. James Sims and Sons, Ltd., were the contractors. The shop front is in Japanese oak, carved with Georgian detail. The bronze grilles and illuminated metal sign were executed by Messrs. Thomas Elsley, Ltd. The original proposal for the interior decoration was a mirrored scheme for both walls, but, owing to the high prices of the estimate, the greater portion of this was omitted and a cheaper and effective substitute provided. A feature of the building is an inverted periscope which shows from the street the contents of the basement. This, after some experiment with models, has proved an attraction to the neighbourhood. The contract for the works was under £2,000.

University College, Dublin.

This drawing is one of a series that we are able to show by special permission of the architect, Mr. R.M. Butler, F.R.I.B.A., whose fine new collegiate building was illustrated in our issues for November 12 and 19, when descriptive particulars were given.

Examples of Louis XVI. Architecture.

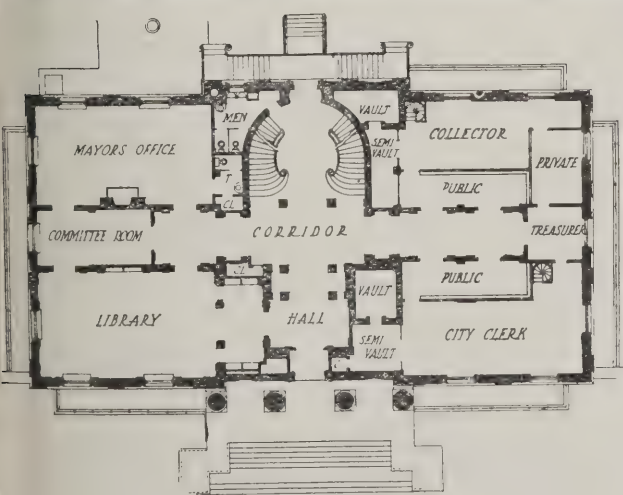
Here we have two excellent specimens of Louis XVI. work—one showing the adaptation of the style to architecture on a small scale, and the other demonstrating its possibilities in relation to a big façade.

Publishers' Announcement

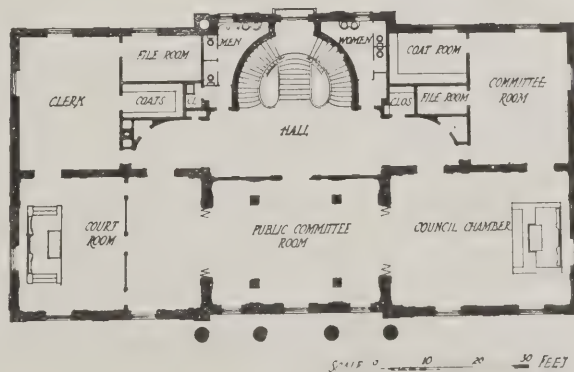
The publishers continue to receive complaints that the Journal cannot be obtained at railway bookstalls. Every newsagent can supply the paper if he desires to do so, and readers are advised to place definite orders for it. With the cost of production so high as it is to-day, it is impossible for publishers to print thousands of copies above their normal requirements simply to provide for the possibility of casual demands at railway bookstalls.



COURT ROOM



Ground-floor Plan.

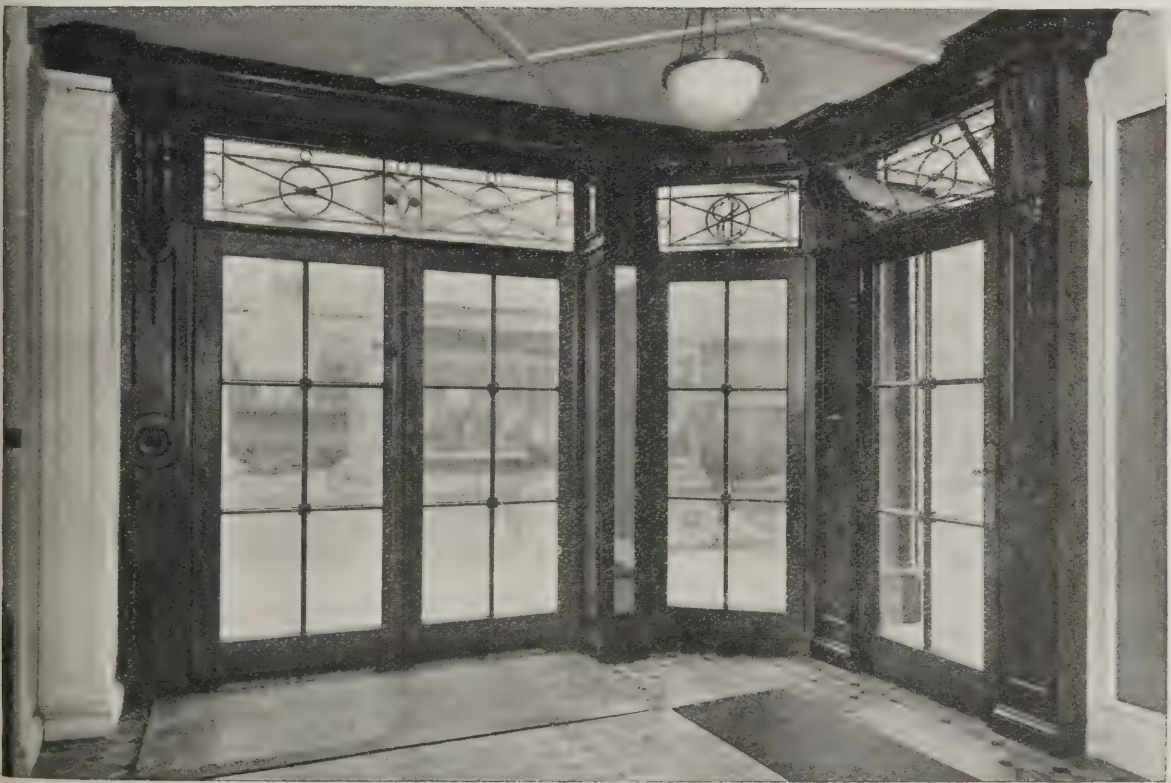


First-floor Plan.

MUNICIPAL BUILDING, PLAINFIELD, NEW JERSEY.

LAURENCE F. PECK AND W. LAWRENCE BOTTOMLEY, ARCHITECTS.

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NEW PREMISES FOR A MOTOR CAR COMPANY, 141, NEW BOND STREET, LONDON.

ALBERT E. BULLOCK, A.R.I.B.A., ARCHITECT.

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London's Housing Problem*

By W. R. DAVIDGE, F.R.I.B.A., Housing Commissioner for the London Area.

elaborate calculations have been made as to the shortage of houses at present time, the numbers varying from 10,000 to a million or more; the area extending in all directions, fifteen miles from Charing Cross, rather more than one-sixth of the population of the country, so that a estimate of the needs of London give at a result of anything from 100,000 houses upwards without counting which will have to be rebuilt or re-erected.

effective population of London, of extends in many cases considerably beyond the limits of the Metropolitan district, and even for housing purposes the area of the London region has extended beyond this to include all urban districts, any part of which is within the police area.

In the summary of the returns received from the local authorities (Form D89), the need so far as the cities in London and Greater London estimate it is approximately 60,000 and proposals are also under consideration for the clearing of 200 slums. The investigation of these slums will inevitably occupy a considerable time but sooner or later they must be cleared in a drastic manner. Apart from clearances, there are, of course, a number of unfit houses which, if they cannot be condemned at once, must be reconstructed or put in repair so soon as labour is available.

Use of Existing Houses.

In addition to these, owing to the changing circumstances of London, there are some thousands of large houses

still in good condition, but which will never again let as single houses for one family. Over 4,000 such empty houses have been recently inspected by the London Housing Board, and of these some 1,500 were found to be suitable for conversion. The sub-division of such houses into tenements or flats is the only possible use to which they can be put for habitation.

Where are the Houses Wanted?

From time to time suggestions have been made for the creation of a number of new garden cities in the present agricultural areas on the fringe of Greater London. Following on the successful experiment of Letchworth, a second garden city is proposed near Welwyn, partly within the Hatfield rural district, and there can be no doubt that the immediate demand for houses in the London area is sufficient to fill at least eight such garden cities even for residential use only. It should, of course, be remembered that the complete ideal of such a city is a self-contained industrial community. Such a proposal, to be successful, must, however, come from a central authority or a Public Utility Society able to command a considerable amount of capital.

Joint Action by Local Authorities.

A combination of local authorities could, of course, also secure the same results, and such a suggestion has in fact been made in a similar case of several important authorities in South-East London, and other cases of joint schemes are under consideration. One such example of authorities actually combining in a joint scheme would be worth a great deal to London at the present time. The necessary powers are provided by the Housing, Town Planning, etc., Act, 1910, but, so far as London is concerned, have not yet been tested.

Finance.

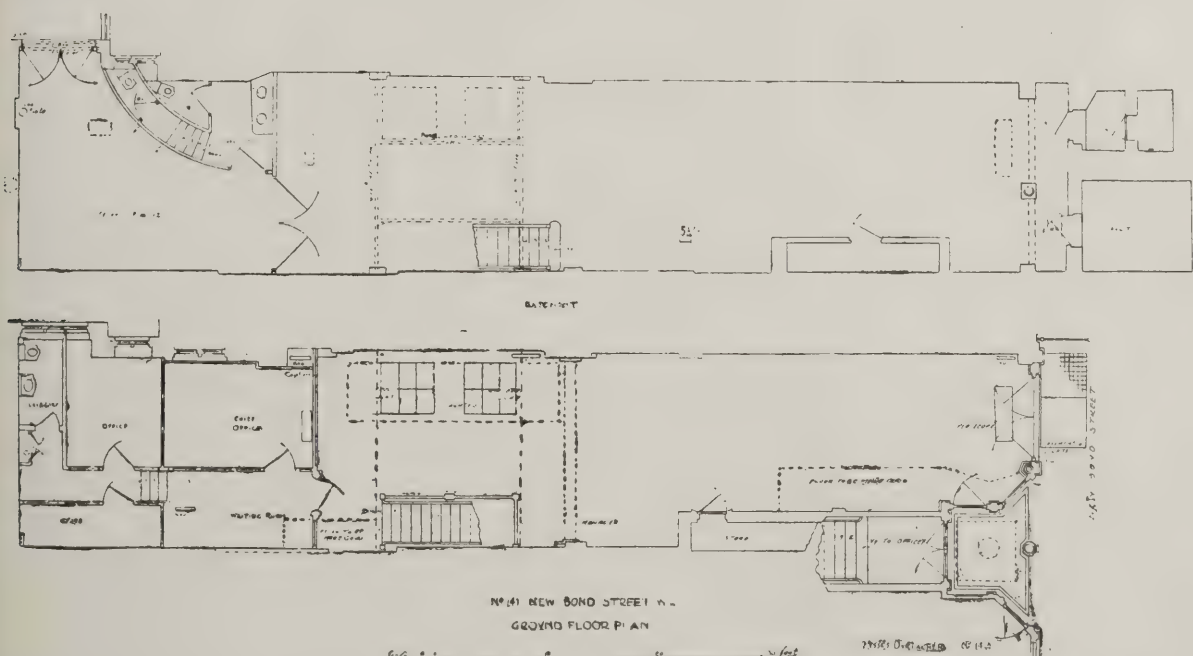
Another important consideration, much to the fore at present, is the question of finance. Where is the money to come from? The Treasury have laid down the rule that all authorities with a ratable value over £200,000 should be expected to find their own capital. This is no doubt quite feasible in the case of many of the manufacturing cities of the Midlands and the North, but it cannot be denied that for the larger suburban authorities in the neighbourhood of London, the position is one of considerable difficulty, especially in the case of local authorities whose local rates are as high as 15s. or 16s. in the £. A Treasury Committee has, however, been set up to consider the question of housing finance, and it is hoped that a decision on this important matter will be reached at an early date. In certain quarters a special housing loan is suggested, and it is believed this would meet with popular favour.

For authorities of less ratable value than £200,000 the position is much clearer, although even here it is expected that local authorities will raise their own resources as far as possible in order to prevent excessive calls upon the funds of the Public Works Loan Board.

The total amount to be expended in Greater London for housing purposes will probably be some £50,000,000, and it is essential, not only that the capital shall be carefully husbanded, but that interest charges and other annual outgoings shall be reduced to an absolute minimum.

Some discussion followed, in which Messrs. Bernard Holland, J. B. Orr, Beresford Pite, S. D. Adshead, A. E. Richardson, M. S. Briggs, and the President, Mr. John W. Simpson, took part.

Notes from a paper read at the R.I.B.A., on November 17.



BASEMENT AND GROUND-FLOOR PLANS OF NO. 141, NEW BOND STREET, LONDON.

ALBERT E. BULLOCK, A.R.I.B.A., ARCHITECT.

NEW BOOK.

"Abstract Architecture."

Once upon a time a caliph of Baghdad awoke, having about him all the symptoms of a man who had on the previous night dined well but not wisely; and, gazing out of the windows of his palace, he became suddenly dissatisfied with the architecture of his city. He thereupon traced some hieroglyphics upon a piece of paper—"a little vorticist effort"—which he sent to his official architects—Mahmud and Hasan, instructing them, under penalty of death, to commence the work by ten o'clock on the following morning, "and within a month a strange street transfigured the heart of the city." It is impossible not to admire the expedition with which these building operations were executed, and to feel that such a caliph, as chairman of a dilatory housing committee, would do more to eliminate the shortage of houses than the greatest Press stunt hitherto organised. But it is concerning the design of the houses that a feeling of grave mistrust exists. What is "a little vorticist effort"? And in seventy pages of Mr. Lewis's bombastic writing no answer will be found to this important question.

Mr. Wyndham Lewis, the typical publicist, lamentably ignorant of the subject about which he writes so pompously, cries out for a new style, and because, hitherto, architects have been unable—just because they have known too much about their work—to supply this deficiency, he hurls invective at their heads, terminating his tirade with the advice that, "You must put the architect, as he drags out his miserable, if well-paid, life to-day, into the dustbin and close the lid." The italics are Mr. Lewis's. This job at least is to be undertaken efficiently, and, so bitter is he, that if the dustbin had a lock it is certain that Mr. Lewis would turn the key and throw it into the river.

That someone is to design and erect buildings, however, even Mr. Lewis admits, and he suggests that such designs shall be the outcome of a new and glorious partnership. "I have thought of a way out for the architect," states the author with all modesty. "It has often been suggested of late that the architect might become a branch of the engineering industry. But why should he take all his bric-à-brac shop over to that clean, fresh, erect institution across the road? Rather let the engineer and the painter fix up a meeting and talk over the sadly-involved affairs of this decayed concern, which is, of all the scandals in the Art world, the most scandalous and discreditable."

But the real scandal, however, of which the persevering reader is all too soon made aware, is in the overwhelming ignorance of the public in matters concerning architecture, and in this respect Mr. Lewis is, indeed, most emphatically no exception. Strangely enough, he realises how dependent the architect is upon the co-operation of the public, for he begins his chapter, "Architecture," with the following admission: "Architecture is the weakest of the arts, in so far as it is the most dependent on the collective sensibility of its period. It is so involved, on the other hand, in utility, and so much a portion of public life that it is far more helpless than painting and literature in the face of public indifference." These are indeed words of wisdom, and it might with some justification have been expected that one uttering them would at least have made himself conver-

sant with some of the past achievements of the art which he concerns himself in denouncing so vehemently; but no: our author is content with vague generalisations, and he betrays his ignorance at each utterance. "A street like Regent Street," we are told, "should be worked out in the smallest detail. It should not grow like a weed, without forethought, meaning, or any agency but the drifting and accident of commerce." Thus our vorticist alludes to one of the most comprehensive town-planning schemes of the early nineteenth century; but worse follows: "Almost any painter, sculptor, or designer . . . will agree with you that Cheapside, Piccadilly, Russell Square, Marylebone Road, are thoroughly dull and insignificant masses of brickwork, laid out according to no coherent plan, bestially vulgar in their details of ornament, and in every way fit for instant demolition." Burlington House and the Ritz Hotel are "dull and insignificant masses of brickwork." Russell Square is "bestially vulgar in its ornament" and "laid out according to no coherent plan." Such statements as these tend to render valueless whatever fragments of wisdom may lurk here and there amidst Mr. Lewis's apocalyptic sentences.

Much as the architect requires and desires genuine criticism to stimulate him, he can have no use for such vapid vituperation, founded as it so obviously is upon utter ignorance. As with a particular building, so with the art of architecture, it cannot rest upon the instability of a vortex, but its foundations must stand firmly and securely upon scholarship and tradition, upon the immutable laws of logic and reason, upon a respect for the limitations imposed by the particular materials employed and the functions to be performed by each particular building. We may, therefore, proudly reply to the title of Mr. Lewis's book, "Architects! Where is Your Vortex?" that we fortunately do not possess one. H. J. B.

"Architects! Where is Your Vortex?" By Wyndham Lewis. Published by The Egoist, Ltd., 23, Adelphi Terrace, London, W.C. Price 3s. net.

ARCHITECTURAL FELICITATIONS.

The following telegram was sent by Mr. John W. Simpson, P.R.I.B.A., to the Liverpool Society of Architects on the occasion of a dinner given on November 17 to their overseas members of His Majesty's Forces.

Taliesin Rees, President, Liverpool Society of Architects.

Salutations and brotherly greetings to you and your guests from the President and Council of the Royal Institute. Hearty congratulations to those who have fought and returned in safety. Your gathering symbolises the reunion of our profession and the beginning of new activity. Accept our cordial wishes for success and prosperity of the Liverpool Society of Architects.

SIMPSON, President.

Mr. Taliesin Rees, F.R.I.B.A., F.S.I., President of the Liverpool Society, replied as follows:

Dear Mr. President,

Many thanks for your very kind telegram, which was much appreciated. I wired you last night a reply which I hope you received. We drank to your health, and I am sure you would have been greatly pleased if you had heard the way in which it was received. Kind regards.

Yours very sincerely,

T. TALIESIN REES.

CORRESPONDENCE.

Architectural Education—A Critique and a Programme.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I am glad to see in your issue of the 19th inst. that Mr. Paul V. House, chairman of the Institute for Architectural Education, has replied to my article on architectural education, which appeared in the JOURNAL of October 29, and in which I criticised the Institute's policy in educational matters. In your next issue I should like to see the arguments advanced by the Waterhouse. LIONEL B. BUDIN.

Concise Costing for Housing.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—As one who has had experience in the question of costs in connection with housing, I am very interested in the article now appearing in your JOURNAL. Mr. Sumner Smith appears to strike a new note in connection with bills of quantities, far as they relate to housing, and I am sure some system as outlined by him will be welcomed by architects and builders. The present method of cube, superficial, and number appears to be reduced to Smith to "number" only. This principle when it comes to the question of materials, would be a great advantage, provided the bills of quantities are prepared in so accurate a manner as to be of use upon by builders. One advantage would be that a contractor could enter into contracts for all the materials required immediately he received instructions to proceed with the work, thus saving much time in these days money also. Bills of quantities on Mr. Smith's system would be extremely useful, if, as I presume he proposes, such items as roof timbers, etc., were set forth in their exact lengths. I shall look forward to succeeding articles with interest.

The Society of Architects and Its Housing Schemes.

To the Editors of THE ARCHITECTS' JOURNAL.

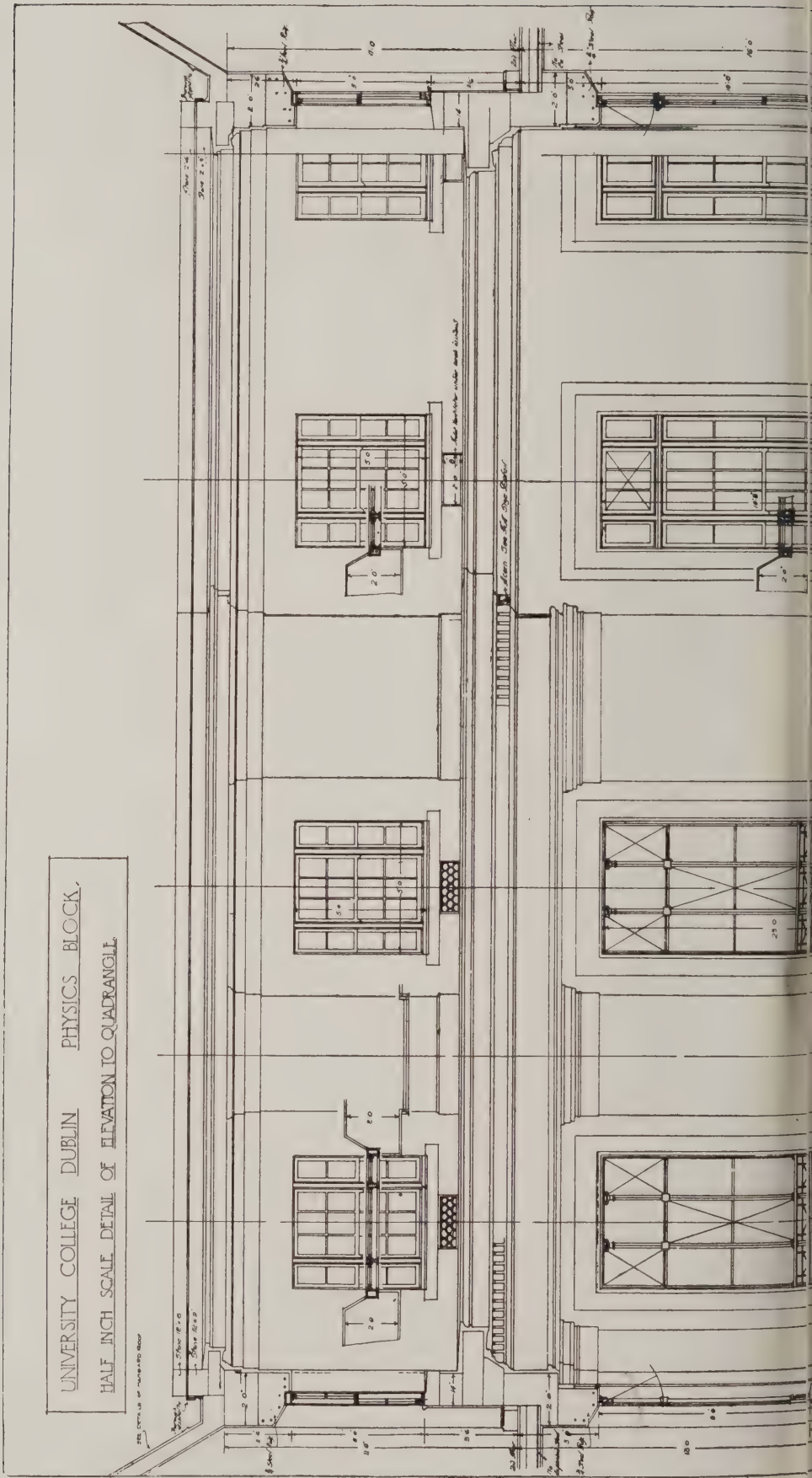
SIRS,—The attention of the Society of Architects was recently drawn to the report of the Housing Department of the Government Board for Ireland with regard to the employment of architects by local authorities for the purpose of housing schemes under the above Act, which provided for the formation of a panel of architects limited to members of the R.I.A. or of the R.I.A., Ireland.

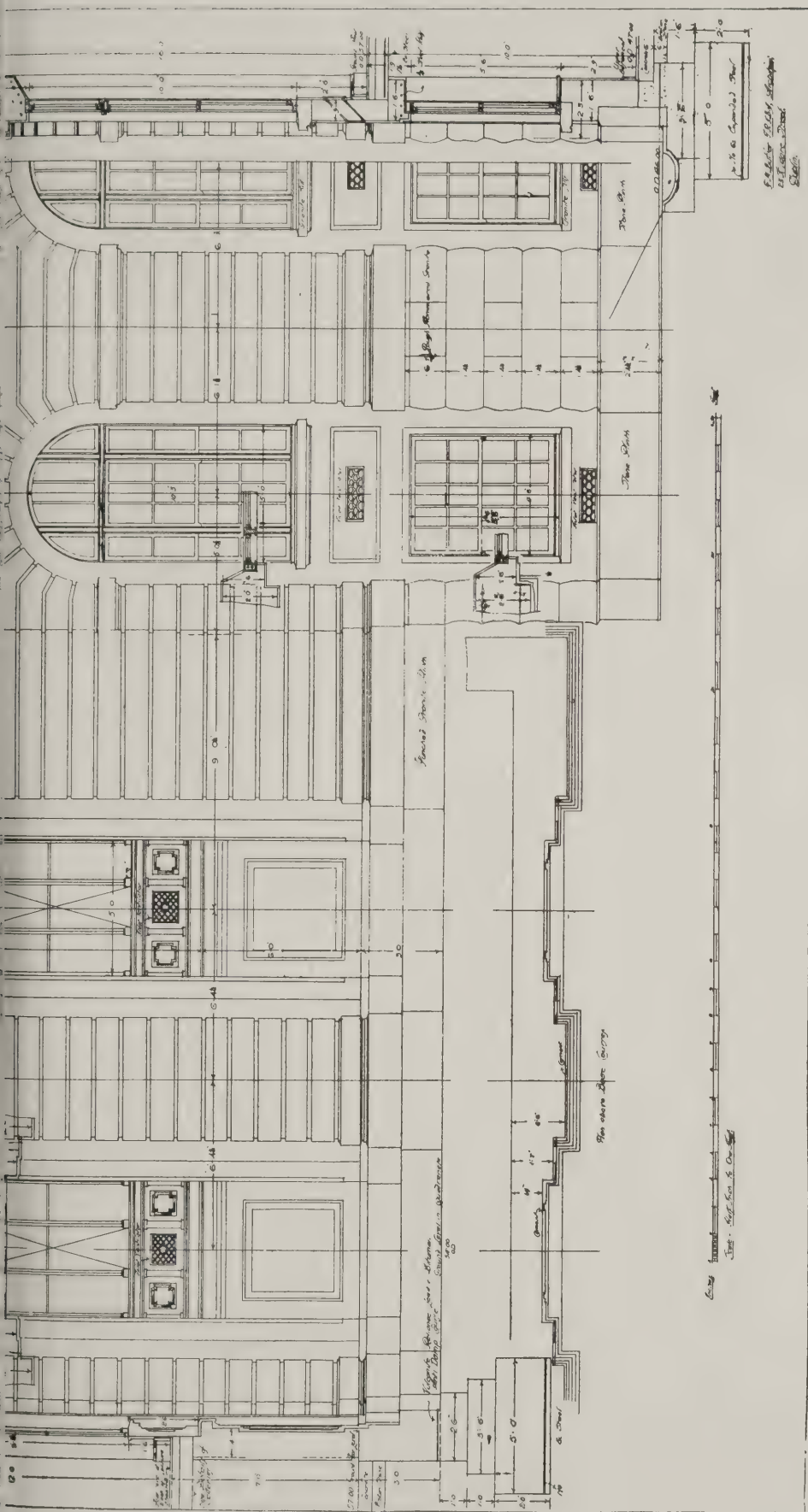
As such an Order, if not extended, would have debarred those members of the Society of Architects who are not members of either one of the institutions mentioned, from being included in the panel, the Society took the matter up with the Government Board for Ireland, which has agreed that all members of the Society practising in Ireland may make application to be included in the panel. The names of several members of the Society who would have been excluded under the present order as it stands have already been forwarded to the panel.

The Society's view is that public appointments should be made to all architects possessing the required professional qualifications, seeing that the existing architectural body has the monopoly of such members of the profession in its registers.

C. MCARTHUR BUTLER, Secretary.

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UNIVERSITY COLLEGE, DUBLIN: DETAIL OF ELEVATION TO QUADRANGLE, PHYSICS BLOCK.

R. M. BUTLER, F.R.I.B.A., ARCHITECT.

OF THE
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cise Costing for Housing, Based on an Improved System of Quantity Surveying

By T. SUMNER SMITH, M.Q.S.A., F.I.Ar.

(Continued from No. 1298, page 637.)

g is a synopsis of Mr. Smith's preceding articles, which appeared in our issues for November 12 and 19: Defects of ordinary quantities; schedule of detailed costs of cottages; lack of standard method of taking off quantities; estimating on ordinary bills; disadvantages; simplicity of estimating on practical and scientific quantities, based on recommendation of Tudor Walters's report; ample; use of method in ordering goods and checking accounts; how contracts may be easily squared up and adjusted; schedule of relative value in cost of labour and materials for cottages. These articles are copyright.

chedule of costs for cottages and schedule of relative value of the materials and labour, although they same results, are computed upon nt basis. In one case it is the cost of 140 houses of several whilst in the other case the s are computed from a block of tages of one type, and the labour outed from three blocks, each of mprise four cottages of the same hat for materials. One of these f cottages was built in the winter during very bad weather, another summer months during very dry , and the third in the autumn ; therefore the labour gives an for ordinary working conditions.

Scientific Costing.

udor Walters's Report lays great pon the question of costing, as ound on page 49, paragraph 176, is stated: "That the up-to-date s of business organisation, scient- ing, standardi-ation, etc., which een found effective in other es are applicable with due ents to the cottage building "; and again on page 77, h 347, "It is clear that a complete of costing and accountancy will extra clerical labour, but we are ed that the efficient control of the hich will result and the up-to-date lge of the cost of each group of is erected, which such system will ore the contractor and those for e may be working, will lead to ies in comparison with which the e clerical work will be negligible." e had over 20 years' practical ice as a quantity surveyor, have careful study of organisation and e costing, and my experience has that a proper and scientific system ng and accountancy is little or no sly than an indifferent or lacka- kind, and that the benefits far h any consideration against its . In the example given of the cottage building, the cost of the work was 2'96 per cent of the st of the works, which is less than rally believed to be the case and s approximately 5 per cent. In articular instance, under my e and direction for and on behalf in conjunction with Messrs. John Sons and Co., Ltd., a complete of organisation, costing, and ancancy was installed with the d of Mr. Raymond Unwin, the t, who in acknowledgment of documents wrote: "The system e at Queensferry always seemed a very good and complete one." e quantity of statistics and data e and schedule form which has rived from this source could be

given, but it is generally unwise to use data or formula unless the basic principles upon which they have been computed are known. It is by far the safest plan to compile your own data, which should be computed by a simple method, so as not to require too great a strain or effort to understand, and so as to reduce the risk of miscalculation in their application.

That builders are aware of the necessity of good organisation and scientific costing is evident by the report of the Industrial Council for the Building Industries submitted to and approved at the annual meeting, which states: "Some simple but generally applicable scheme of costing and accountancy was not only essential but possible; and the Building Trades' Council should promote a scheme or schemes which will fulfil the conditions of simplicity, i.e., not too unwieldy or detailed to be available and useful for prompt results, elasticity, and accuracy."

The subject of organisation, scientific costing, and accountancy, even if dealt with

briefly, would require a treatise of its own. My object here is to show the importance it occupies or should occupy in cottage-building, if economies are to be effected. Practical and scientific bills of quantities would reduce the working expenses; give the exact quantities of materials required in the form in which they are ordered and best understood, and would eliminate risk and speculation. They would also encourage the collection of data, with the result that estimates of labour would become an exact science and a necessity. Labour is, with one exception, the only point upon which the contractor is in competition, and good organisation, scientific costing, and accountancy should ensure him against loss or risk. The one exception is that of buying to the best advantage and even this would be fostered in the interest of the contractor to secure work or more profit.

Economical Building.

A thorough knowledge of the values of materials and labour is essential for

Schedule of Labour employed in Cottage Construction.

Kinds of Labour.	Ratio in per-centage of time occupied.		Ratio to Total Cost of Cottages.				Ratio (in value) of Labour.			
			Percentage.		Approx. Value per £.		Percentage.		Approx. Value per £.	
	Each Kind.	Each Trade.	Each Kind.	Each Trade.	£	s. d.	Each Kind.	Each Trade.	£	s. d.
1. Excavating.										
a. Gangers	'23		'10				'23			
b. Labourers	3'29	4'17	1'49	1'59		3½	3'28	3'51		8½
2. Drainage.										
a. Gangers	'24		'11				'23			
b. Drainers	'34		'16				'35			
c. Labourers	1'63	2'21	'61	'88		2¼	1'36	1'94		4¾
3. Concreting.										
a. Gangers	'32		'14				'32			
b. Labourers	4'49	4'81	1'70	1'84		4½	3'73	4'05		9¾
4. Bricklaying.										
a. Foreman Bricklayers	'80		'49				1'08			
b. Bricklayers	15'10		7'85				17'29			
c. Apprentice Bricklayers	'42		'04				'10			
d. Scaffolders	3'24		1'38				3'03			
e. Labourers	19'82	39'38	7'50	17'26	3	5½	16'51	38'01	7	7¼
5. Carpentry and Joinery.										
a. General Foreman	'27		'18				'39			
b. Shop Manager	'33		'37				'81			
c. Shop Foreman	'31		'17				'38			
d. Foreman Machinist	'26		'14				'32			
e. Charge Hand	'45		'25				'56			
f. Machinist	1'40		'73				1'60			
g. Assistant Machinist	'57		'06				'14			
h. Apprentice Machinist	'39		'05				'11			
i. Sawyer	'28		'13				'29			
j. Assistant Sawyer	'25		'04				'08			
k. Joiners at Shop	8'65		4'50				9'90			
l. Apprentice Joiners	'58		'04				'10			
m. Labourers	'86		'27				'60			
n. Foreman Joiner on erection	'84		'52				1'14			
o. Joiners on erection	13'47		7'01				15'42			
p. Labourers on erection	2'72	31'64	1'05	15'52	3	1	2'33	34'17	6	10
6. Slating.										
a. Slater	'56		'29				'64			
b. Slater's Mate	'56	1'12	'29	'58		1½	'64	1'28		3
7. Plumbing.										
a. Foreman Plumber	'27		'17				'37			
b. Plumbers	2'16		1'12				2'48			
c. Plumber's Improver	'06		'02				'03			
d. Plumber's Boy	'45		'07				'16			
e. Labourers	'95	3'89	'36	1'74		4½	'79	3'83		9½
8. Plastering.										
a. Foreman Plasterer & Painter	'42		26				'57			
b. Plasterers	5'81		3'02				6'65			
c. Scaffolders	'98		'42				'02			
d. Labourers	3'30	10'51	1'25	4'95	1	0	2'75	10'89	2	2
9. Painting.										
Painters		2'27		1'05		2½		2'32		5½
		100%		45'41	£0	9 1		100%	£1	0 0

Schedule of Cost of Materials for Cottages.

Materials.	Table A.			Table B.		
	Ratio to Total Cost of Cottages.			Ratio (in value) of Materials.		
	Percentage.	Approx. value per £.		Percentage.	Approx. value per £.	
1. Drain Pipes, etc.		£ s. d.		£ s. d.		
a. Glazed drain pipes						
b. Gully traps						
c. Field drain pipes						
2. Cement and Lime.	47	1 1/8	1.00		2 1/2	
a. Portland cement						
b. Hydraulic lime						
c. Fat Lime						
3. Broken Bricks, Sand, etc.	2.26	5 3/8	4.81		11 1/2	
a. Broken bricks						
b. Sand						
c. Ashes						
d. Granite chippings						
4. Common Building Bricks, etc.	1.96	4 3/4	4.18		10	
a. Common bricks						
b. Firebricks						
c. Terra-cotta air bricks						
d. Galvanised cavity tiles						
e. Chimney pots						
f. Bitumen damp course						
g. Breeze partition blocks						
5. Manufactured Timbers.	9.12	1 10 3/8	20.29		4 0 3/4	
a. Joists, roof spars, etc.	9.69	1 11 1/4	20.54		4 1 1/4	
6. Manufactured Joinery.						
a. Carpentry						
b. Joinery						
c. "Slate" battens						
d. "Plaster" laths						
7. Slates.	10.92	2 2 1/2	23.17		4 7 1/2	
8. Castings.	1.60	3 1/2	3.41		8 1/4	
a. Cast iron register grates, mantels, kitchen ranges, including back boilers						
b. Cast iron manhole covers, frames and step irons						
c. Cast iron rainwater goods and soil pipes						
d. Iron skylights						
e. Cistern brackets						
Wrot Iron.						
f. Gutter bolts and nuts						
g. Wrot-iron hangers						
h. Hip irons						
i. Wrot-iron tubes and fittings						
Steel.						
j. Steel bars for concrete lintels						
Cisterns, etc.	2.99	7 1/8	6.37		1 3	
a. Galvanised cisterns						
b. Galvanised cylinders						
c. Galvanised washing coppers						
10. Metal Goods.	1.57	3 3/4	3.29		8	
a. Locks, etc.						
b. Butt hinges						
c. Screws						
d. Nails						
e. Brass unions and ferrules						
f. Brass taps						
g. Brass gratings to sinks						
h. Steel clips						
i. Galvanised chains, and pulls						
11. Lead Pipes, Sheet Lead, etc.	2.14	5 1/8	4.57		11	
a. Sheet Lead						
b. Lead pipes						
c. Plumbers' solder						
d. Lead "S" traps						
12. Sanitary Earthenware, etc.	1.19	2 3/4	2.53		6	
a. Cane glazed sinks						
b. Baths, with taps, wastes and overflows						
c. W.C. basins with seats, bolts and nuts, and rubber stops						
d. Rubber cones and copper wire						
e. Flushing cisterns						
13. Glue, Oil, Hair and Putty, etc.	1.31	3 1/8	2.72		6 1/2	
a. Tarred gaskin						
b. Cow hair						
c. Creosote						
d. Benzoline						
e. Oil putty						
f. Red lead putty						
g. Red lead cement						
h. Oak bobbins						
i. Glue						
j. Sand Paper						
14. Glass.	.31	0 3/8	.64		1 1/2	
15. Paint, Varnish, etc.	.37	7/8	.78		2	
a. Distemper, etc.						
b. Pigments and oils						
c. Carbolineum						
d. Varnish						
e. Brunswick black						
16. Sundries.	.48	1 1/8	.94		2 1/4	
a. Concrete flags						
b. Wire guards and gauze						
c. Wood covers to Baths						
	.37	0 1/8	.76		2	
	47.15	£0 9 5	100%	£1 0 0		

economical building. From a analysis of materials used in construction of cottages erected at Royal I have grouped together kinds shown in table on this page.

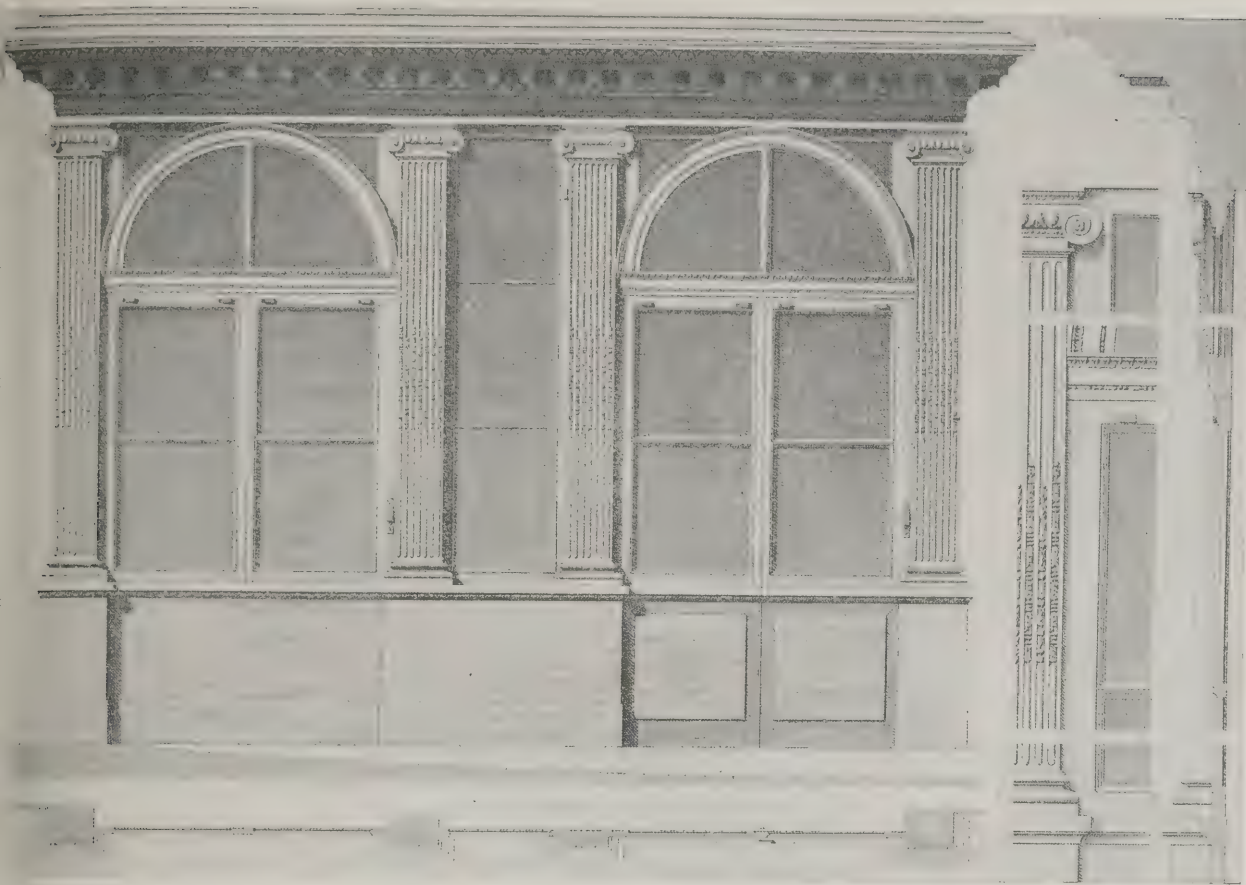
A schedule on the lines shown is absolutely essential and necessary considering the saving that is effected by the substitution of one of material for another. Take whole of the materials under group common building bricks, etc.—that out at 9.52 per cent. of the total approximately 1s. 10 3/4d. in. Assuming a case in which a cottage cost £600 to build, the total cost of group of materials would amount (1s. 10 3/4d. × 600 =) £57 3s. 9d., and be evident that some portion only of sum would be saved, everything being equal. Again, the columns in Table B show the relation in value of each group. In the example given ratio (in value) represents 20.29 per cent. of the value of materials, equal to 10 in the £, and in studying economy of use of materials we have by this an excellent guide as to what materials be substituted or omitted to produce saving in cost. I have shown that worked out at 45.41 per cent. of total cost. The schedule on page 663 gives proportion of time occupied by each section of labour, the ratio in percentage and value of labour in each trade to total cost, and the ratio in percentage value of labour in each trade in relation to cost of "labour."

This schedule of labour is a guide to the study of labour cost, and gives the proportionate amount of time occupied by each section of labour in each trade. Taking Group 4, "Bricklayers," it was ascertained that the time occupied by those engaged in this trade amounted to 39.38 per cent. of the whole, and represented 17.26 per cent. of the cost, approximately 3s. 5 1/2d. in the £. The columns showing ratio (in value) of labour, equal to approximately 7 in the £. By this it will be seen that "bricklayer" is the most costly labour in cottage-building, and next to "carpenters' and joiners' work." trades alone account for 71.02 per cent. of the time, and represent 32.78 per cent. of the cost, equal to approximately 6 in the £. Another trade occupying 10.51 per cent. of the time, and representing 4.95 per cent. of the cost, equal to approximately 1s. in the £.

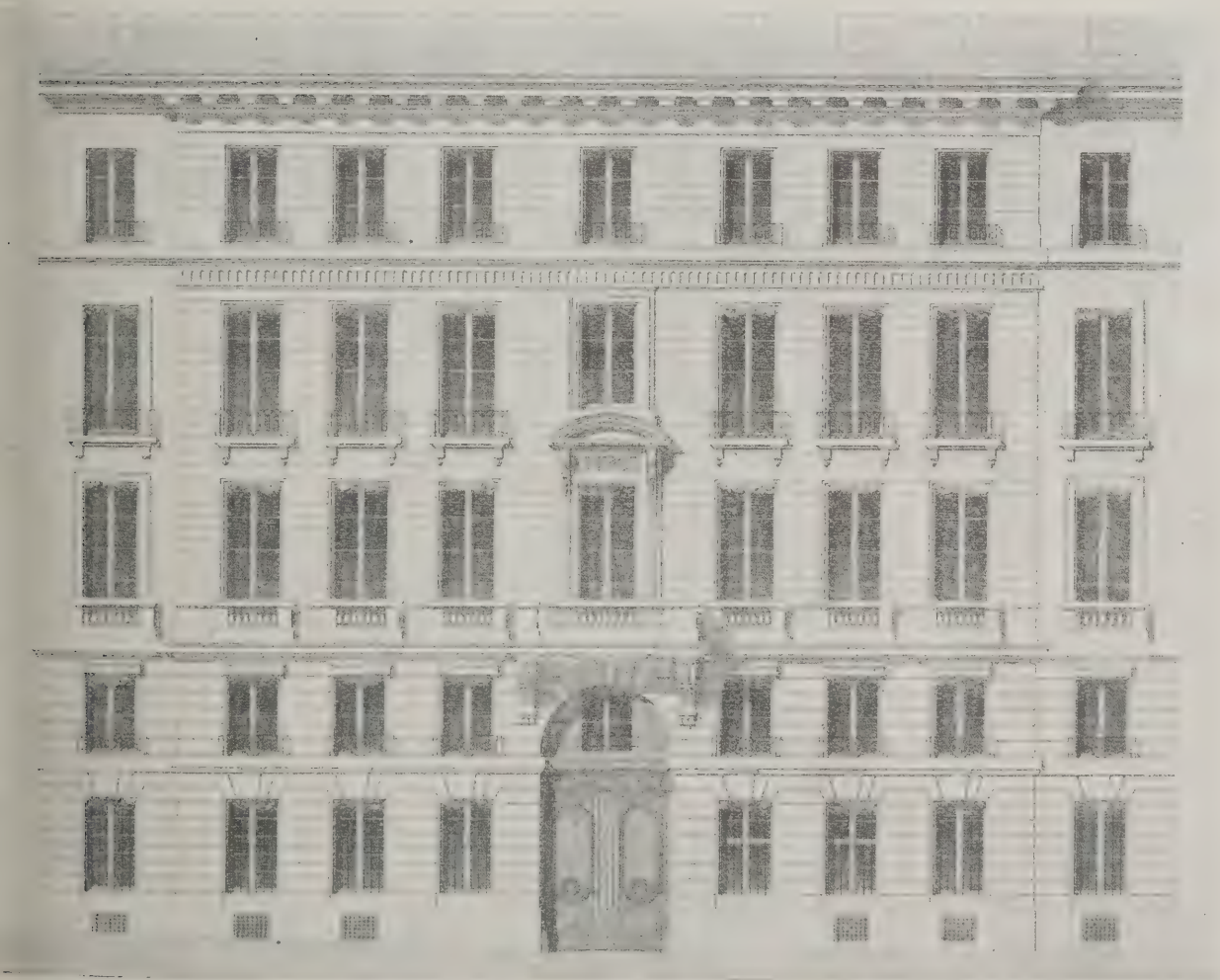
It will be apparent that by scientific schedules could be compiled giving detail the cost of each kind of material, its labour cost, and great advantage be gained.

Data for materials and labour cost that outlined may be made use of for purpose of checking estimates. Consider a case in which the value of materials has been ascertained or is—say, £300, which we will take to represent 47.15 per cent. of the cost. We at the total by the following proportion: As 47.15 per cent. : 100 per cent. :: £300 : the total cost = 100 × £300 ÷ 47.15 = approximately £636 5s. 4d. this it is possible to ascertain approximately the value of any particular class of material, and the value of any section of labour.

(To be continued).



SHOP FRONT, QUAI DES ORMES, PARIS (LOUIS XVI. PERIOD).



FAÇADE IN RUE DE TOURNON, PARIS (LOUIS XVI. PERIOD).

USING OF CROFTERS.

Scottish Board of Health have been what are the obligations on local authorities under the Housing Acts to provide houses for crofters. In a Circular L.P. No. XI, 1919, issued recently, the Board state that there appears to be no doubt that crofters come under the expression "working classes," and the local authority will be responsible under the Housing, Town Planning, and Town Improvement (Scotland), Act of 1919 for the provision of many houses required for crofters in the event of these houses not being otherwise provided. In view of the peculiarities attaching to crofter tenure, the Board state that there are considerable difficulties and objections to the houses being provided at the instance of the local authority. They have been in consultation with the Board of Agriculture for Scotland with the object of arriving at a workable scheme that will meet the exceptional circumstances.

The information of the local authority in connection with the preparation of

their scheme under Section 1 of the Act it is stated that the Board consider that meantime houses required for crofters should be provided by the crofters themselves with the aid of loans and materials on the terms set forth in the Circular issued to local authorities on August 29, 1919, by the Board of Agriculture for Scotland. While the ultimate responsibility for the erection of houses will rest on the local authority in the event of the crofters not availing themselves of these offers, the Scottish Board of Health would meantime be prepared to give favourable consideration to any scheme which is presented under Section 1 of the above Act, even though provision is not made for any houses required for crofters, on the understanding that should the necessary houses not be provided by the crofters, the local authority will at a later date when required by the Board amplify their scheme to include these houses.

In the Circular referred to the Board of Agriculture invited the co-operation of the local authority to secure that the offers made by them will be largely taken advantage of, and it is suggested that the assistance to be given by the local authority might best be given in the following directions:

(1) In order to arrive at a proper appreciation of the problem in detail, the local authority should take steps to ascertain from records already in their possession and by such further enquiry as may be necessary the approximate numbers of—

(a) New houses required for crofters in the district (including houses needed to replace existing uninhabitable houses that are so defective as to make it impracticable to reconstruct them), and

(b) Existing defective houses of crofters in the district that are capable of being made habitable.

(2) The local authority should thereupon communicate with the individual crofters, pointing out the defective condition of their houses, and informing them of the arrangements whereby they may obtain assistance from the Board of Agriculture towards the erection of new houses or the repair of existing ones. As far as practicable the crofters might be interviewed personally or collectively and the position explained to them. They should also be informed that, unless they take active steps to remedy the defective condition of their houses the local authority will have no alternative but to put in operation their powers under the Housing Acts.

Local authorities of crofting areas will furnish a report to the Scottish Board of Health by February 19, 1920, showing what action they have taken on the lines suggested.

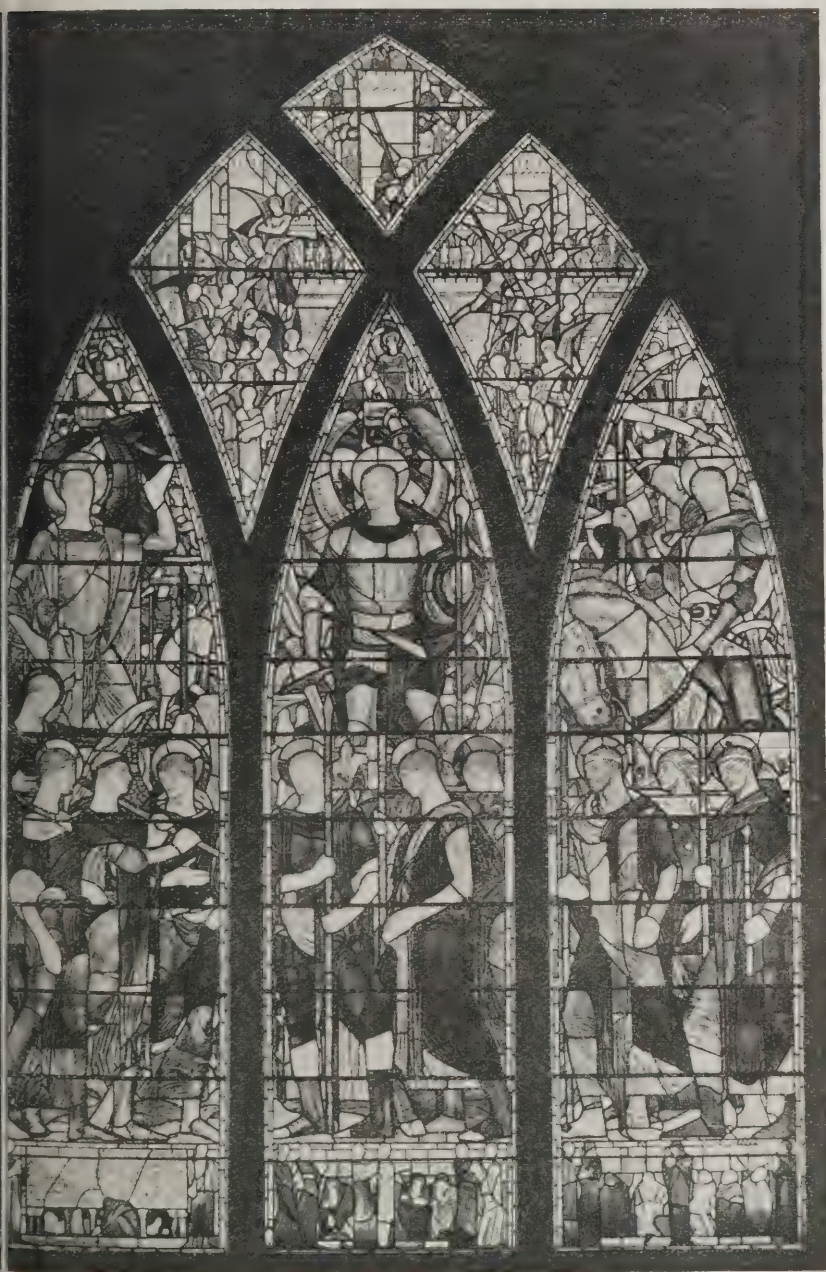
A MEMORIAL WINDOW.

The very dignified memorial window illustrated on this page has been presented by Field-Marshal H.R.H. the Duke of Connaught, late Governor-General of Canada, to St. Bartholomew's Church, Ottawa, in memory of those members of his Canadian Staff who died for their country in the Great War, 1914-1918. It was designed and painted by Miss W. M. Geddes at Miss Purser's glass works in Dublin, and was unveiled in Ottawa by the Prince of Wales.

The subject is the welcoming of a slain warrior by soldier-saints, champions, and angels. The warrior comes from the left, armed, and wrapped in a crimson cloak, carrying a broken spear; he is conducted by St. Raphael, the guardian of travellers, and by St. Gabriel, the Angel of the Resurrection. There is behind them an Angel of Death in dark clothing, with a cup in his hand, and an Angel of Peace above. These figures are in the left-hand light. In the middle light, meeting them, are SS. Longinus, Sebastian, and Martin, with banners in their hands, and above them St. Michael the Archangel, with a sceptre and a sword; and in the right-hand light are St. Edmund, Joan of Arc, and St. Louis, with banners, and St. George on horseback. The acts and martyrdoms of the soldier-saints are shown on their banners.

In the backgrounds of all three lights are knights of King Arthur, on horseback, carrying banners painted with their exploits or emblems. The Knights of the Holy Grail are accompanied by angels; Sir Gawaine by ladies he "fought for in righteous quarrel."

Miss Geddes is to be congratulated on having produced a design appropriate to its purpose and carried out in the true spirit of the medium employed.



MEMORIAL WINDOW IN ST. BARTHOLOMEW'S CHURCH, OTTAWA.

DESIGNED AND PAINTED BY MISS W. M. GEDDES

The Week's News from Far and Near

New Premises for Walton-on-Naze Yacht Club.

New premises are to be erected at Walton-on-Naze for the Walton-on-Naze and Frinton Yacht Club.

Beckenham War Memorial.

Beckenham has decided to erect a large cottage hospital and a sculptured monument as its war memorial.

Proposed Hanley Statue.

It is proposed to erect on an existing "island" site in front of the Hanley Town Hall a statue to the late Major Cecil Wedgwood, D.S.O.

Convalescent Home for Hertfordshire County Council.

A proposal of the Hertfordshire County Council to purchase a children's convalescent home at St. Leonards-on-Sea has been sanctioned.

Welsh University Memorial.

It is proposed to erect a North Wales Heroes' Memorial in connection with the new buildings which are being added to the North Wales University College, Bangor.

Glasgow War Memorial.

Designs will shortly be approved in Glasgow for a monument in the form of a war memorial to be erected in the grounds of the Glasgow Academy. A sum of £20,000 is aimed at, and over £12,000 is already subscribed.

Historic House as Cinema.

One of three fine houses in Chichester designed by Sir Christopher Wren is being converted into a picture theatre. The other two have been taken over by the County Education Committee and the Westhampnett Rural District Council respectively.

Stock Exchange Memorial.

A fund is being raised to erect a memorial to the members and clerks of the Stock Exchange who lost their lives in the war. It has been suggested that the memorial should be set up within the Stock Exchange, and the estimated cost would be about £10,000.

Architectural Partnership.

Mr. Walter H. Brierley, of 13, Lendal, York, has taken into partnership Mr. J. Hervey Rutherford, who has been with him as chief assistant for eighteen years. The firm will practise under the title of Messrs. Walter H. Brierley and J. Hervey Rutherford.

The Aldwych Site.

In regard to the Aldwych site which is being let at £55,000 a year to the Bush Company, the L.C.C. proposes as a condition that not less than £750,000 shall be spent on the buildings, and that application may be made for liquor licences in respect of a café, hotel, or theatre if any be erected.

Reconstruction.

Lieut.-Colonel Percy C. Burton, chairman of P. C. Burton and Co., Ltd., advertisers' service agents, of London, who was recently demobilised, has written an inspiring little booklet on "Reconstruction," which shows an angle of vision little thought of by the business man. Lieut.-Colonel Burton is an ardent reformer and idealist, who has the knack of seeing the

point of view of the practical man of business. A spirit of optimism runs through his message. Messrs. Burton and Co. will be pleased to send copies to any business man.

Memorial Cross for Stoke Bishop.

At a public meeting at Stoke Bishop, it was decided to erect a war memorial cross, to be executed in Stancliffe stone. The cross will measure some 17 ft. in height. Four panels will be inscribed with the names of the fallen. Mr. W. H. Watkins, F.R.I.B.A., is the architect.

Glasgow Architectural Craftsmen's Society.

At a meeting of the Architectural Craftsmen's Society in Glasgow a lecture on "Housing" was delivered by Mr. A. Davidson. Mr. James Muir, president, occupied the chair. The lecturer dealt with the housing problem from the point of view of utility, and showed lantern slides of houses already erected.

Compulsory Acquisition of Land for Housing.

A general housing memorandum, No. 11, has been issued by the Ministry of Health with regard to the compulsory acquisition of land for housing. Intimation is given of the procedure to be adopted in the making of a compulsory order and application to the Minister for confirmation, and the procedure subsequent to the confirmation of the order. The memorandum also gives the Notice to Treat, which is sent by the Clerk to the local authority, to all persons having or claiming any interest in the land to be compulsory acquired; the form of claim by the owner for compensation from the local authority; and the notice of entry, which states the authorities' intention of taking possession of the property upon the expiration of fourteen days from the service of the notice upon the owner.

Barcelona Fair.

An international fair is to be held at Barcelona from May 15 to 30, 1920, and in each succeeding year. The fair is open to business men and wholesale buyers of all countries, and exhibitors will have the benefit of facilities for transport, and of modified Customs duties. The exhibits include electricity, building construction, and decoration. Application for certificates of admission and details of transport, customs duties, etc., should be addressed to La Direccion General de la Feria de Barcelona, Fernando 30, Barcelona, before January 15.

Federation of British Industries.

The following appointments were made at the annual meeting of the Federation of British Industries: President, Mr. W. Peter Rylands, of Rylands Bros., Ltd., Warrington; Vice-Presidents, Messrs. Godfrey Isaacs, Marconi Wireless Telegraph Co., Ltd.; Philip Lockhart, W. and A. Bates, Ltd., Leicester; and Sir William Pearce, M.P., Association of British Chemical manufacturers. In addition the seven retiring vice-presidents were re-elected. Sir Vincent Caillard relinquished his position as president on the termination of his year of office.

Rebuilding London.

Mr. Henry R. Aldridge, secretary of the National Housing and Town Planning Council, stated, at the Whitechapel Hous-

ing Exhibition, that the Housing and Planning Council propose, following conference of all the local authorities of Greater London, to be held early next month, to set up a special committee to submit to the people of London a comprehensive housing and town planning scheme dealing with the slums, and the development of the suburbs and the evolution of new transit facilities and kindred questions. Housing reformers are agreed, said, that the minimum standard for a proper family home is that of a five-room house, with bath and an ample garden standing in an estate properly planned.

Ypres War Memorial.

The War Office announces that the Battle Exploit Memorials Committee, under consideration of the question of a memorial to the troops of the British Empire who fought at Ypres. The committee were recently asked in the Belgian Chamber regarding the action to be taken at Ypres, the reason for the delay in adopting the plans for its restoration, which of the ruins it was proposed to preserve. The Belgian Minister of the Interior replied that the town authorities had been late in passing the plan for restoration. He also said that on July 1st last an official meeting took place with representatives of the Belgian Government, local town authorities of Ypres, the British War Office Committee, Battle Exploit Memorials, and that preliminary measures have been taken to protect the Cloth Hall, the Cathedral, and the adjoining houses from desecration. These ruins in their actual state, being an eloquent testimony of the barbarity, will remain a place of pilgrimage.

Supply of Government Building Materials to Private Persons.

Arrangements have been made by which persons building houses for the working classes will be enabled to obtain building materials through the Director of Building Materials Supply, who is authorised to supply materials required for the aided schemes. The following conditions will apply: A certificate must be obtained from the clerk of the local authority housing commissioner of the Ministry of Health in whose district the houses are to be erected to the effect that (a) The certificate is required for the purpose of erecting or improving houses for the working classes; (b) the development, design, and construction are such as, having regard to the standards laid down by the Ministry of Health, the local authority or Commissioner approve; (c) the houses proposed to be erected are needed, and the provision of the same in the manner proposed to that extent relieve the programme of building by the local authority. A condition of the contract of sale will be that the purchaser enters into a written undertaking to use the materials forthwith for the sole purpose of erecting or improving houses for the working classes. Application for the purchase of building materials should be made to the Director of Building Materials Supply, Ministry of Munitions, Caxton House, Tothill Street, Westminster, S.W.1, who will supply particulars and copies of the certificate of approval and undertaking required. It is anticipated that this arrangement will enable builders to effect a saving of 5 per cent. on materials.

ROADS AND TRANSPORT AND PUBLIC WORKS EXHIBITIONS.

Thursday last the Roads and Transport Congress and Exhibition, organised by the County Councils Association, and Public Works Exhibition were officially opened at the Agricultural Hall, by Sir Eric Geddes, Minister of Transport. Conferences are being held on matters of vital importance to authorities, and a number of interesting papers are being read by well-known Government and municipal officials. In view of the prominence now given to housing, arrangements have been made for a conference to be held on the subject on November 27 and 28 by the joint invitation of Municipal and County Councils. Over one hundred firms are exhibited at the exhibitions, which cover a large range of materials used in the building and allied trades. Following are some of the more important exhibits which have stands, accompanied by a list of particulars of their exhibits:

St. Albans, Ltd., show samples of three- to five-venesta birch, made with water-resisting cement, and other grades of ply including three-ply alder, Siberian larch, oak, lime and pine, etc.

Limmer and Trinidad Lake Cement Co., Ltd., show their asphalt paving blocks, etc.

Port and Pitt, Ltd., and T. L. Smith exhibit a concrete and tar macadam concrete mixing plant, and a hand-operated concrete or tar macadam.

"All" Marketing Co., Ltd., show samples of bitumen for roads.

The stand of the Ransome-verMeyr Co., Ltd., are stone dryer and concrete mixers, concrete mixers, concrete mixers, etc.

Exhibit of Kerner-Greenwood and Co., Ltd., consists chiefly of apparatus and tools to demonstrate the practical application of Pudlo.

The equipment of all kinds, including tables, filing cabinets, etc., are exhibited at the stand of Shannon, Ltd.

John, Johnson, and Co., Ltd., demonstrate the effects produced by some of the protective, finishing, and decorative materials.

Townmead Construction Co., Ltd., exhibiting samples of "Westrumite asphalt" and damp-course; a piece of which has had about six years' hard use and a sample after about three years' use are also shown.

Particulars are provided at the stand relating to "Winget" outfit of construction machinery, including block-making machines, concrete mixers, crushers, and concrete breakers, concrete roofing, tile machines, etc.

Portland Cement, Ltd., show their cement conforms to the requirements of the British Standard Specification, and which contains no added material intended to act as a pore filler or water repellent.

Standard Wooden House planned by the Ministry of Health and Boulton and Paul in conjunction is to be seen at the exhibition.

Johnson and W. and B. Cowan, Ltd., show a selection of lanterns and requisites for public lighting.

The main items on the stand of the English School Furnishing Co., Ltd., are specimens of "Utod" windows and "Utod" doors.

The North British Rubber Co., Ltd., display examples of tyres for heavy and light road transport.

The cottage range shown by the London Warming and Ventilating Co., Ltd., has a hot closet for warming dishes and a boiler for domestic hot water supply and baths.

The stands of the Allied Machinery Co., Ltd., attract considerable attention from road surveyors. Tools are to be seen for use in road-making and road-mending.

The British Reinforced Concrete Engineering Co. show a sample of concrete road slab reinforced with No. 9 B.R.C. Fabric, and photographs of reinforced concrete roadwork.

On the stand of Clark, Hunt, and Co., Ltd., is an exhibition of Bailey's hot water supplies and an interesting display of general ironmongery.

Cuirass Products, Ltd., exhibit a liquid roofing, an anti-corrosive paint, and their wood preservative.

Ferodo stair-treads in attractive patterns for wood, stone, and iron staircases are exhibited by the Herbert Frood Co., Ltd.

Interesting examples of expanded metals used in the building trade are shown on the stand of the Expanded Metal Co., Ltd.

Hadfields, Ltd., show machinery manufactured for the production of road metal, ballast, and gyratory crushers, rolls, jaw-breakers, etc. The Hecla disc crusher is shown in motion.

Samples of triangle mesh, made of cold-drawn mild steel wire, and a sample roll of the material, and samples of indented steel bars for use in the reinforcement of concrete may be seen at the stand of the Indented Bar and Concrete Engineering Co., Ltd.

Johnson's Reinforced Concrete Engineering Co., Ltd., display their lattice system of reinforcement for reinforced concrete floors, roofs, walls, culverts, etc.

Specimens of brick tiles, slate, and other building material are shown by W. T. Lamb and Son.



"RECEIVADOR" COMPARTMENTS IN
A KITCHEN DOOR.

Amongst the exhibits of Tarmac, Ltd., are Tarmac and Vinculum concrete building blocks made of selected slag and Portland cement.

Permac, a composition to make joints tight, and with the advantage of being ready for use immediately after application, is shown by Thomas and Bishop.

The exhibitions are open daily from 10 a.m. to 7 p.m. until November 27.

TRADE AND CRAFT.

Cope and Timmins: New Telephone Numbers.

Messrs. Cope and Timmins (London), 1911, Ltd., of 15 and 16, Alfred Place, London, W.C.1, general brassfounders, have had installed a telephone system on the exchange principle, and have engaged the services of an operator. Museum 4530, 4531, and 4532 will be the future numbers of the firm, and there will be extensions to all departments.

A Household Delivery Service.

The great waste of time and labour involved in giving attention to the visits of tradesmen may be saved by the installation of the "Receivador," which enables the various household requisites to be delivered in much the same way as the ordinary post. As will be seen from the illustration, the "Receivador" consists of two, three, or four compartments, which may be placed either on the kitchen door, in the wall, or under a window. Each compartment has two doors, one placed on the outside and the other on the inside, the alternate interlocking of these doors being carried out by an entirely automatic action. A tradesman delivering a parcel simply places it in the compartment, closes the door, and turns the knob, which automatically locks the outer door of the compartment and unlocks the inner one. In the same manner, when the housewife removes the goods and closes the door the inner door is again locked and the outer one unlocked. This locking and unlocking of each door in turn automatically operates an indicator reading "Taken," or "Vacant," showing whether the compartment is occupied and locked or unoccupied and open. For conditions where a glazed door is essential to obtain light in the interior of the house, the panels of the top compartment are made of muranese or wired glass. The manufacturers are the Receivador Company, of York Chambers, King Street, Nottingham, who claim that the installation of the "Receivador" does not in any way interfere with the ordinary use of the door.

Overseas Trade Catalogues for South Africa.

South Africa.—H.M. Senior Trade Commissioner (Mr. W. G. Wickham) desires from United Kingdom manufacturers copies of their post-war catalogues for his commercial reading room, where they can be consulted by local importing firms. Manufacturers should call attention to new products and special features, and indicate the name of any local representative. Manufacturers should state whether they are able to offer delivery within a reasonable time. Catalogues should be sent direct to H.M. Senior Trade Commissioner in South Africa, P.O. Box 839, Johannesburg.

Cape Town.—A model homes exhibition is to take place at Cape Town early next year. A shortage of houses is being experienced in South Africa, and several

housing schemes are under consideration in various parts of the Union. H.M. Trade Commissioner at Cape Town would be glad to receive appropriate catalogues, etc., to bring to the notice of the Committee of the Exhibition, and to utilise generally in assisting South African buyers in their purchases of building and household materials. He draws particular attention to the Union's requirements in doors, window frames, glass work, interior fittings, stoves, etc.

Southern Russia.—British firms endeavouring to enter the Russian market should send their catalogues addressed to the care of the British Economic Mission, Rostov-on-Don, South Russia.

Bulgaria.—Firms desirous of having their goods advertised in Bulgaria are invited to send price lists, marked with current prices, and, where possible, accompanied by samples, not exceeding 1 lb. in weight, to Captain W. B. Heard, c.o. British Legation, Sofia, Bulgaria. These will be available at the Sofia Chamber of Commerce, where Bulgarian merchants can view them. If desired, further consignments of catalogues and samples not exceeding four in number may be sent for distribution amongst the chief provincial Chambers of Commerce.

Trieste.—Trieste Commercial Museum requires books containing the addresses of the most important industrial and commercial firms of the United Kingdom and of the Colonies, as they are in great demand. The information should be sent direct addressed to His Majesty's Consul-General at Trieste and marked "Trieste Commercial Museum."

HOUSING ACTS (COMPULSORY PURCHASE) AMENDMENT REGULATIONS, 1919.

The following Housing Acts (Compulsory Purchase Amendment Regulations, 1919, have been issued by the Minister of Health:

1.—These Regulations may be cited as "The Housing Acts (Compulsory Purchase) Amendment Regulations, 1919," and shall be read as one with the Housing Acts (Compulsory Purchase) Regulations, 1919, hereinafter called the principal Regulations.

2.—Where the Minister of Health makes an Order for the compulsory acquisition of land under the powers conferred on him by Section 16 of the Housing, Town Planning, etc., Act, 1919, for the purpose of securing the immediate provision of dwelling accommodation in the area of any local authority, the principal Regulations shall be read and have effect subject to the following modifications:

(a) The following articles shall be substituted for Articles IV., V., and VI. of the principal Regulations:

"Article IV.—(1) The Minister shall cause the Compulsory Order to be published by advertisement in one or more newspapers circulating in the district of the local authority and in the parish or parishes in which the land to which the Compulsory Order relates is situated.

"(2) The said advertisement shall be published not later than the second day after the making of the Compulsory Order.

"(3) The said advertisement shall contain in addition to a copy of the Com-

pulsory Order a notice setting out the following particulars:

"(a) A statement that any objection to the Compulsory Order must be presented to the Minister of Health within the period of seven days from and after the date of the publication of the advertisement; and

"(b) A statement of the period, times, and place or places during and at which the deposited plan referred to in the Schedule to the Compulsory Order may be inspected by or on behalf of any person interested in the land to which the Compulsory Order relates.

"(4) The plan referred to in the schedule to the Compulsory Order shall be deposited by the Minister not later than the second day after the making of the Compulsory Order at a place convenient for the purposes of inspection, and shall be kept deposited thereat for a period not being less than seven days from the date of the publication of the first advertisement; and the said plan shall be open for inspection by any person interested or affected, without payment of any fee, at all reasonable hours on any week-day during the said period. The Minister shall also make suitable provision for affording to any such person inspecting the said plan any necessary explanation or information in regard thereto.

"Article V.—(1) The Minister shall, not later than the second day after the making of the Compulsory Order, cause notice thereof to be given to every owner, lessee, and occupier of the land to which the Compulsory Order relates, and every such notice shall include a copy of the Compulsory Order, to which shall be appended a notice containing the particulars mentioned in paragraph (3) of Article IV. of these Regulations.

"(2) The Minister shall furnish a copy of the Compulsory Order, free of charge, to any person interested in the land to which the Compulsory Order relates, upon his applying for the same.

"Article VI.—The period within which an objection to a Compulsory Order may be presented to the Minister by a person interested in the land to which the Compulsory Order relates shall be the period of seven days from and after the date of the publication of the advertisement of the Compulsory Order."

(b) "The Minister" shall be substituted for "the local authority" in Articles III. and VII. of the principal Regulations.

3.—Notwithstanding anything in these Regulations, the Minister may in any case to which these Regulations apply direct that the period during which objections may be presented to a Compulsory Order shall be fourteen days in lieu of seven days.

4.—These Regulations shall apply in the case of any Compulsory Order made by the Minister after the 23rd day of October, 1919, for the purpose of securing the immediate provision of dwelling accommodation, but without prejudice to any Compulsory Order made by the Minister under the principal Regulations before that date or to any proceedings consequent thereon in the exercise by him in pursuance of Section 16 of the Housing, Town Planning, etc., Act, 1919, of any powers of a local authority.

WEEKLY HOUSING REPORT

The return of housing progress is published weekly by the Ministry of Health since the week ended November 15.

New schemes submitted to the Minister during the week ended November 15 numbered 146, bringing the total number of schemes submitted by local authorities and public utility societies to 6,342, comprising about 53,000 acres. The schemes approved during the week numbered 2,408, comprising 24,300 acres. Among new schemes submitted, a large one submitted by the Leamington County Council and relating to a site of 3,000 acres at Dagenham. The Council propose to acquire another site of 250 acres, at Bellingham.

House plan schemes representing 6,000 houses were submitted during the week, and schemes representing 5,019 houses were approved. The total number of houses in house-plan schemes submitted is 61,470, and in the schemes approved 49,000. Tenders have been approved for 14,000 houses. Fifty-nine local authorities have made application for war service streets with a view to their conversion into streets. The number of huts and buildings proposed to be acquired for housing purpose is about 2,000.

Procedure for the compulsory acquisition of land for housing purposes has recently been considerably shortened, and the number of orders submitted by local authorities for confirmation by the Ministry has increased. On November 18 111 orders had been submitted and sixty-one confirmed. The Ministry have information that a further two or three orders have been made, but none submitted, and that in thirty-six cases the local authorities have been making of orders under consideration. Orders already confirmed relate to 1,773 acres. The above figures relate solely to local authorities.

Building Sites.

Schemes Submitted.—The number received from seventy-nine local authorities was 139, comprising 4,337 acres, bringing the total number of schemes promoted by local authorities to 6,261, comprising approximately 50,000 acres.

Schemes Approved.—The number of schemes approved was 146, bringing the total number approved to 2,383, comprising about 23,650 acres.

Lay-Outs.

Schemes Submitted.—Seventy schemes were submitted by fifty-two local authorities, bringing the total number of schemes submitted to 1,442.

Schemes Approved.—In this category forty-six schemes, promoted by thirty local authorities, were approved, bringing the total number of schemes approved to 831.

House Plans.

Schemes Submitted.—Ninety-three schemes and eight part schemes representing 4,595 houses, were submitted. The total number of schemes submitted represent 59,289 houses.

Schemes Approved.—Eighty-five schemes and five part schemes, representing 5,009 houses, were approved. The total number of schemes approved represent 47,369 houses.

Conversion of Temporary Dwellings.—Up to November 15 sixty-one local authorities had applied for permission to provide housing accommodation by conversion of temporary buildings. Conversions had commenced on 212 huts, providing 311 tenements, and 130 tenements are occupied or ready to be occupied.

QUESTIONS IN PARLIAMENT.

HOUSE OF LORDS.

The Housing Agreement with the Builders.

Mr. Grey asked for the terms of the agreements which had been made by Mr. Addison with the building trades to facilitate the erection of new houses, and whether they contain the principle of payment to contractors or others on the basis of cost plus a percentage of profit?

Mr. Peel said the Minister of Housing had been in communication with the representatives of the building trades, and the terms of procedure had been discussed with a view to making arrangements by which the erection of houses could be facilitated. The principal feature of the procedure was that the representatives of the local Federated Builders' and Housing Commissioners might meet and arrive at agreed prices at which houses were to be erected. The erection of houses to be built under the agreement was distributed by the local authorities of the federation to builders in proportion to their resources. On the condition of such an arrangement individual builders would enter into contracts with the local authority which would be for a lump sum with variations of charges according to costs of material and labour. A second procedure was that builders on partially developed land might undertake the erection of houses to be built with the land by the local authority for a specified lump sum with no variation except in the event of an increase in wages of labour. Neither arrangement involved the principle of cost plus percentage of profits.

HOUSE OF COMMONS.

Government's New Housing Scheme.

On Friday last Dr. Addison, Minister of Housing, outlined the Government's new housing proposals, which will necessitate fresh legislation with regard to the housing of the people. Dr. Addison denied that there had been a failure, and referred to the large amount of preliminary work that had been involved. Great difficulties, he said, had also been encountered, amongst them being highly priced tenders, which had to be cut down; transport, cost of materials, and the shortage of operatives in the building trades.

Dr. Addison brought to the difficulty of the local authority. It was the cost. In addition to that there had been some misgiving as to what was going to be the position of the authority in relation to rent. The intention of Parliament was that any authority which did its work in a fair and proper manner and secured as good rents as it could get was to lose more than the proceeds of the rate. At the same time, it was necessary that the Exchequer must be protected against an authority which might attempt to exploit the scheme, and perhaps lose popularity by letting a house for less rent than it ought to charge.

Another difficulty was that of local authorities in raising the necessary loans. There was a very striking diversity of authorities. There were some which got the money without any trouble, others which had the utmost difficulty in raising loans. It was very easy to fall on the Exchequer, but it was not possible to add to the mass of floating debt. They must look to the local authority to help themselves. Some time ago a committee was appointed, in conjunction with the Treasury, and it was hoped

there would be issued a very attractive scheme to provide for local municipal investments. The Government proposed to start a campaign in different centres to encourage the local authorities to finance themselves.

To encourage the house-builders—those who built the majority of houses before the war—to erect within a certain time limited numbers of houses of an approved type, properly laid out, it was proposed that the Government should pay the builder a subsidy, limited to twelve months, amounting to not more than a maximum of £150 on the house. It would be given solely because of the high cost of building and labour, and that would be the full extent of the liability of the Government. This free grant was not intended to undermine or arrest local authorities' schemes.

An important agreement had also been made with the Federated Builders, so that all the forces of the Federation in every district should be brought to bear on the builders. Dr. Addison had recently been operating on the plans worked out for some time past to induce the local authorities to begin to build houses on existing frontages. In fact, on these frontages some of the types to be built under the scheme had been erected. The result was that they had worked out all the difficulties as to quantities, etc., for most of the types of houses, and all that was now required was to bring in the Federated Builders and to say, "We want you to build not one hundred, but five hundred, of this type." His department had recently accepted plans, and tenders had been arranged for 119 houses of four different types. The Federated Builders undertook to erect 1,000 of the same types by next June. That was now being extended, with the result that while in the previous fortnight the plans accepted numbered 3,600, in the last fortnight they numbered 17,500.

With regard to luxury building, Dr. Addison said that this would be a matter for the local authorities to deal with, and a Committee of the House would be appointed to consider any appeals against a prohibition order. But on no account could the Government undertake the administration of any scheme of prohibition of luxury building by a system of licence. A great deal of labour was at present being absorbed in building operations of a non-essential character. It was proposed that a conference should be called, under the Ministry of Labour, of employers and employees, in the building trade, and proposals would be brought forward by the Prime Minister on behalf of the Government. So far as housing was concerned, they ought at all events to revert to pre-war methods of building with the utmost possible output in every way. They must also, by some abbreviated system of training, get more men into the building industry. They were at least 200,000 short. Where default was shown of a local authority in submitting a housing scheme, the Ministry proposed to exercise its full powers under the Act. In the main, however, the Ministry had the goodwill and ready help of the local authorities. Out of 1,800 authorities, 1,270 had already sent in housing schemes. The Government was not to be stampeded from this great project by any cry to scrap the scheme. They would be no party to delivering the country again to a casual system of housing, which had given slums in every town and city.

Gas During the Winter.

Sir A. Geddes (President of the Board of Trade) stated that last June, owing to the coal situation, the Board suggested to local authorities that they should refrain from taking proceedings against gas companies in respect of deficient calorific power in cases where the calorific power did not fall below 450 British thermal units, or where the percentage of incombustible constituents in the gas was not excessive. At that time the Board hoped that by the end of October this suggestion could be withdrawn, but he was afraid it would be necessary to renew it until the end of April, owing to the difficulties which had been experienced in accumulating sufficient stocks of coal at gasworks to meet demands for gas during the winter.

The Building Trade.

Sir R. Horne (Minister of Labour), in reply to Mr. G. Lambert (Devon, S. Molton, L.), said that he agreed with the suggestion that instead of unemployment donation work should be found for unemployed workmen. There was at present a general shortage of bricklayers, carpenters, and joiners, and a general surplus of most other grades of building labour; but this was not true of every locality. The Employment Exchanges were making every effort to secure that all unemployed labour was offered for any jobs for which it was suitable.

The Cost of Housing.

Mr. Baldwin, answering Sir P. Pilditch, said: I would refer the hon. member to the estimate of £10,000,000 recently given as the probable cost of the housing subsidies in a normal year. Sufficient progress has not yet been made by local authorities to enable an accurate estimate to be made of the amount of the subsidy or the charge on rates in each of the next seven years. I am aware that some local authorities find difficulty in raising money in the market, and my right hon. friend the Chancellor of the Exchequer has recently appointed a Committee to consider what steps can be taken to assist them to do so.

Mr. J. Jones (Silvertown, Lab.) asked the hon. member whether he was aware that municipalities found it impossible to build houses to be let at anything like an economic rent, and what steps the Government were prepared to take to enable them to do so?

Mr. Baldwin, replying to Mr. J. Jones, said that until the houses were built and the cost ascertained they could hardly say what the economic rent would be.

Preservation of Ypres.

Mr. Evelyn Cecil asked the Under-Secretary of State for Foreign Affairs whether any negotiations have been or are being carried on and agreements arrived at by His Majesty's Government with the Belgian Government for the adequate preservation of Ypres as a memorial of British valour and sacrifice in the war; whether its boundaries for this purpose will be delimited clearly and protected from wanton damage by tourists; under whose care the ruins will be, and who will be responsible for their necessary repairs?

Mr. Harmsworth: Yes, sir; this question has been entrusted to a War Office Committee, under the chairmanship of the Adjutant-General, who is in touch with the appropriate Belgian authorities on the spot. The remaining points raised will, I am sure, be carefully considered by this committee, and I will draw their attention to them.

TOWN DEVELOPMENT AND HOUSING.

Leigh-on-Sea.

Fifty houses are being erected at Leigh-on-Sea.

Willesden.

Willesden is raising £100,000 by voluntary subscriptions to build a war memorial hospital.

Driffield.

Work is to be commenced on the erection of twenty-seven houses at Driffield, Yorks.

Leyland.

The U.D.C. have adopted a housing scheme involving an expenditure of between £50,000 and £60,000.

Kilwinning.

The Town Council have decided on a housing scheme, and Mr. John Armour, of Irvine, has been appointed architect for the work.

Lancashire.

The Minister of Health has received plans for the proposed erection of 2,570 houses at Manchester, 450 at Salford, and 2,000 at Liverpool.

Llandudno.

Work is proceeding on the enlargement and improvement of the municipal market. A new place of entertainment is to be erected on the site of the old market hall.

St. Ives.

The T.C. have decided to submit a scheme for the provision of forty-two new houses, provided the Government carry out their promises in regard to financial assistance.

Birmingham.

Eighty-four concrete houses are to be erected at Yardley Wood, Birmingham. The Housing Committee are also endeavouring to obtain a number of army huts at Sutton Park for conversion to temporary dwellings.

Haltwhistle.

It is proposed to build 250 houses. Should coal-mining develop in certain parts of the district, as is probable, at least a further 750 houses will be needed. It is proposed to complete the scheme for 250 houses in two and a half years.

Manchester.

At Heaton Park forty-six huts are being converted into ninety-two dwelling-houses. Most of the houses will have three bedrooms in addition to a living-room, scullery, and larder. The City Architect has adopted the Fiberlic wallboard for interior lining.

Aberdeen.

The proposed housing scheme provides for the erection of 4,000 houses, of which 1,600 will consist of houses of three apartments, 2,200 of four apartments, and the remaining 200 of five or more apartments. The average number of houses per acre will be from ten to twelve.

Colne Valley.

In addition to the fourteen houses in course of erection on their estate at Cowlersley, the Linthwaite District Council has approved the architect's lay-out for thirty scullery houses at an estimated cost of £520 each, and a bungalow type of house at an estimated cost of £460 each. These have been forwarded to the Housing Commissioner at Leeds for his approval.

Skegness.

A large block of buildings at Skegness is being demolished, and the site has been acquired by the Union of London and Smith's Bank for the erection of banking premises. A further large corner property in Skegness is also being converted into a bank.

Acton.

Acton U.D.C. propose to build 1,750 houses, and private builders will provide 150 more. It is proposed to complete 522 houses on the Acton Wells Golf Course site in May, 1922. Other sites are being acquired, and numbers of existing houses are being converted into flats.

Huddersfield.

It is understood that the Town Council, which recently agreed to purchase the Huddersfield War Hospital for £10,000, is proposing to convert a portion of the premises into a hostel for single men, with provision for married people as a measure in alleviation of the acute housing difficulty.

Hyde (Lancs.).

The Corporation have fixed 200 as the number of houses to be erected within the next three years by the municipality. The Housing Committee has recommended the Finance Committee to consider the purchase of eight or ten acres of land in Newton township, and the same area in Godley township, as sites for houses.

Scarborough.

Two new hotels are to be constructed on the South Cliff, and at least one new cinema is to be built in the centre of the town. The Cliff Bridge Company is about to carry out considerable improvements. The Corporation has also in prospect the construction of a new bathing pool on the North Shore.

Blackburn.

The Housing Committee has accepted tenders for the erection of forty houses, in blocks of four, situated about two miles from the town centre. The cost per house will be £883 15s. The Corporation's scheme in its entirety provides for 136 houses on three separate sites on the outskirts of the town.

Arbroath.

Sir Leonard Lyell, of Kenmundy, Forfarshire, has agreed to sell to the Town Council a site on the northern outskirts of the town, extending to thirty-eight acres, at £90 per acre, which is £10 per acre less than previous to negotiations being opened with the Chief Valuator for Scotland. The total cost of the ground will thus be about £3,500. The scheme provides for the erection of 300 houses.

Nottingham.

Nottingham Corporation have decided to purchase land at an estimated cost of £150,000 for an extension of the Guildhall buildings. The scheme involves the demolition of the Mechanics' Institution, for which another site is to be secured. It is estimated that the new hall will cost half a million pounds, and will bring about a concentration of the municipal offices, which are at present scattered.

Surrey Memorial Village.

A garden village, with 500 homesteads occupied by ex-Service men and their families, is the war memorial scheme which the Surrey Land Settlement Committee is about to place before Croydon Borough Council. It is proposed to

acquire 800 acres close to the town, to build six- or eight-roomed houses on twenty-rod plots. There will also be small homesteads on plots of about 10 acres.

COMPETITION NEWS.

Fife.

The Education Authority have decided to invite competitive plans for a new school at Crossgates.

Scotland.

Important work for which architects have yet to be appointed includes a memorial chapel for Glasgow University. Already subscriptions towards the scheme amount to £20,000. Large public buildings will be established in Renfrew. It is suggested that the building be used as Victory Baths and that the site be then selected by the Town Council of which they had in 1914.

Foxenden Quarry, Allen House Garage, Guildford.

The plans of Mr. H. Ascroft, Licentiate R.I.B.A., of London, have been placed first in the competition held recently for the lay-out of the above estate, which is a public park and pleasure grounds. The site is one of natural beauty, and includes the bowl of an old and long disused quarry, which is converted into a Japanese garden. A bandstand will form the centre of a natural theatre; other features include a pyrus avenue, a formal garden and pond, tennis courts, and bowling green.

ENQUIRIES ANSWERED.

Bishopric Stucco Board.

W. H. G. (Bewdley) writes: "Can you give me the name and address of the manufacturers of Bishopric Stucco Board?"

—The Bishopric Stucco Board used by Sir Charles T. Ruthen, O.B.E., F.R.I.B.A., for his housing experiments at Swansea, was supplied by the Modern Homes Construction Company, Ltd., 3 Prudential Chambers, Castle Street, Swansea. We do not know whether the Bishopric Board is actually manufactured by this firm.

Reinforced Concrete Appliances.

H. S. (London) writes: Can you give me the following information: (1) The most suitable types of concrete mixers for large and small batches of concrete. (2) Your opinion as to the electrically-welded joint for reinforcements. (3) The shaking tables and where they may be obtained.

—(1) There are several concrete mixers on the market capable of mixing large and small quantities of concrete. Among the well-known types are those manufactured by T. L. Smith, of 13, Victoria Street, S.W.1; The Ransome-verMehrs Co., Central Buildings, Westminster; and Winget, Ltd., 25, Victoria Street, London, S.W.1. (2) Opinions differ as to the suitability of the electrically-welded joint for reinforcement. There is, however, an increasing demand at the present time for the electrically-welded joint in this country. (3) We have knowledge only of the Jagger method of oscillation, full particulars of which may be obtained from the Imperial Construction Company of 7, Victoria Street, S.W.1.

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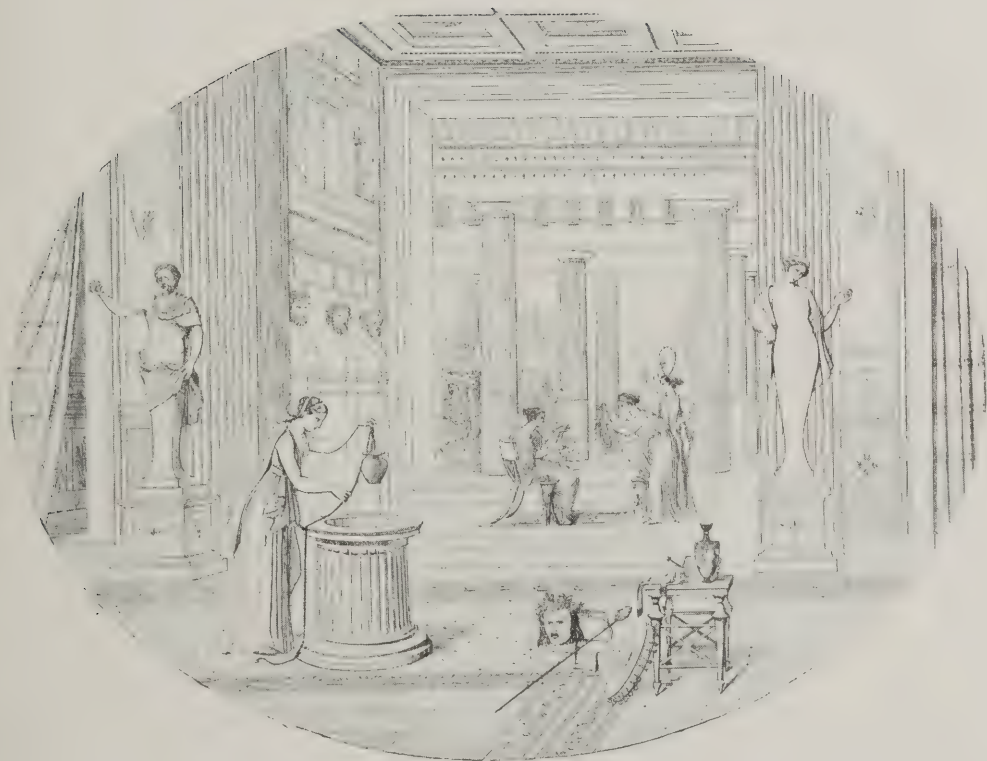
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FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS

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The Need for Co-operation

THE Building Trade's Parliament has been asked by the R.I.B.A. to consent to the affiliation of the professional architectural societies to the Council. It is a step of tremendous importance to the building industry. If it is actually taken, all the different factors of the building industry will be brought into direct relationship with each other in the organisation which will represent the industry as a whole. The architect, the builder, and the craftsman will sit together in conference. At that conference they will visualise their common task. They will see it and see it as a common task. Such a conference cannot but have an immense influence upon the future of building in this country.

It is difficult to find a term presenting vividly the function required to rear the buildings for our social needs, in which are to be embodied æsthetic emotions, the utilitarian attainments, the technical facility at any time registering the point our civilisation has reached. The word "architecture" emphasises too much the part played by the architect and tends to a divorce in the public mind between certain qualities which in building are inseparably associated. Emotions not conditioned by the practical necessities of life have to be, and are so, discounted, and the æsthetic quality, in most respects regarded as being the prime possession of the architect, is often so discounted in that it has no real relationship to the urge impelling men to spend money and labour framing surroundings for the things they desire to perform. On the other hand, the word "building" tends to a conception of a mere aggregation of materials judged by the protection afforded from climatic or other conditions that threaten the things for which protection and accommodation are required. It is perhaps too late to find in words an expression presenting to the ordinary mind, in all its plainness, the great harmony of noble impulse, utilitarian desire, and technical skill found in the great monuments of past and present.

There is something to be on the way to an actual association that may impress the public mind with the fact that culture and building are one. There is hope in the tradition, great hope, never more since the days in the cathedrals of this land and of Europe under the activities of men who were not divided into architects and builders. There have not been causes in the passage of time for the separation of the functions of architect, builder, and craftsman, which have set men to these separate tasks. Attempts have been made to join the three, but the success of these attempts has not been such as to be likely that to any extent these functions can be united by the same individual. Such success as they have had has rather lain in the fact that they have kept alive the great truth that there is a real relationship between these three functions which, if it does not reside

in the same individual, must at least be maintained in some visible association of their separate activities.

It is not possible at the present moment to see what consequences will flow from the Association which is promised. They should be great. There is an immense field for them. Building shares with agriculture the distinction of being the great twin industries of all time. Men have tilled and men have built long before other arts and crafts were known. Each of them is a home industry. Their results are best seen within the confines of the land in which they are carried on. No greater test of the position of a country can be applied than the condition of its agriculture and the magnitude of its buildings. The works of the builder are not exported: they are for home consumption. In the city, the town, and the village, they stand to show in the public works, the church, the home, what is the standard of life and attainment in that land. The arts of peace outlive the arts of war, and engrossed for five years in battle conflicts, we are turning to-day to find our real work in the reconstruction of town and country life. Activities concentrated for so long on the work of destruction have now to be applied to building up a new life of peace. It is not without significance that we use this word "reconstruction," and apply it to social activities far outside of and removed from the professions, trades, and crafts which will meet in the Building Trade's Parliament. The truth is that no part of social life can proceed in safety and vigour unless there be framed for it an environment to the construction of which the skill and capacity of the architect, the builder, and the craftsman must be applied. It appears to me one of the happiest auguries of the future prosperity of this land that there should be a joining together of these three.

The present time presents great opportunities with great responsibilities, and great responsibilities cannot be discharged unless there is effective co-operation between all those upon whom the common charge is placed. The policy last enunciated by the Government in connection with housing, plausibly supported though it has been, is a short-sighted and defeatist policy. It has proceeded in the wrong direction. Instead of maintaining their original idea of the problem of housing as a unified whole to be dealt with by processes of co-ordination and co-operation, they are proceeding as though the solution of it is to be found in the unrelated and even clashing activities of private individuals. It is as though in the early days of the war Kitchener had been charged with delay in the organisation and training of his new army. As if the Government of that day had been stampeded into offering a bounty to any man who could produce a weapon of any kind with which to proceed to France to meet the foe. If we had not had a Kitchener in those days, some policy almost as absurd might have been adopted. As it was, some strain was placed upon him owing to his refusal to accept the offers of patriotic

individuals and local committees to provide him with forces which he, seeing his problem as a whole, felt were not required and would be rather an impediment than otherwise.

It is perhaps too much to expect of the Minister of Health to be the Kitchener of housing, but I do suggest to him that he will lose nothing by stiffening his resistance to the attempts that are being made to supersede the public control and direction of housing by the sporadic and unrelated efforts of private individuals. Observers of the South African War were often impatient of the apparent inactivity and fruitlessness of the proceedings during the first months after Lord Kitchener took over command. It took time to erect his system of block-houses which in the end put a stop to the guerilla tactics of the Boers and compelled them to surrender. I venture to assert that if the Government,

instead of being stampeded into action by those whose interests lead them to resent the co-ordinated activity of the central and local authorities, had placed the problem in the hands of the Building Trades Parliament, little would have been heard about subsidising a thoroughly unsound and unbusiness-like method of producing results.

In place of those subsidies, there would have been developed the scheme already initiated by the Minister of Health, and which, I venture to think, will finally have to be adopted—that of entrusting the carrying of the housing problem to the building industry as a whole, utilising the services of every architect, engineer, builder, and every craftsman, with the payment of proper remuneration, securing the heartiest co-operation and fullest production it is possible for the industry to give.

HARRY BARNE

Notes and Comments

Luxury Building.

IT would appear that Governments are easy to frighten, and that the present Government is rather badly scared about the housing business. Knowing that a false step might make them intensely unpopular, they seem not more anxious to do what is right than to avoid doing what would score against them at an election. They have not yielded to the demand for the cheapest sort of wooden houses; for that was so obviously nothing more than a newspaper stunt; but to the outcry against "luxury building" they have opposed a much less sturdy resistance. Mr. McArthur Butler, secretary of the Society of Architects, suggests that architects should be prepared to support their organisations in amending or rejecting the anti-luxury building Bill. Clearly the chief reason for introducing it was the popular outcry against the demolition of dwellings to secure sites for cinemas—an action that seems so utterly selfish and callous that, naturally enough, the public indignation was instantly aroused to fever-heat. "Luxury building" must be stopped, was the cry, even if we have to get a special Act of Parliament to make it criminal! That would be all very well if only we could be quite sure that the expression "luxury building" were not so vast and vague as to include almost everything except housing. But already in dread anticipation of the Bill's lethal effect on the work of a more general character, architects' clients are countermanding their orders. Striking instances of this natural apprehension or misapprehension are mentioned by Mr. Butler, and could be indefinitely multiplied. His citations are particularly valuable for their indication that the expression "luxury building" may even be stretched to include cottages and flats, where these happen to be contingent accessories to buildings that come under the ban. Hence, one result of the Bill would be that it would prevent housing rather than promote it: which is absurd beyond the demonstrations of Euclid. But what is the remedy? Any Act of Parliament, no matter how skilfully drafted, can be reduced to absurdity by adroit technical evasions, and in other ways. Quite so; but why multiply the opportunities for the exercise of such perverted ingenuity? It would be much simpler, and far more effectual, to abandon all these war-begotten restrictions on building, which, left to its normal course, would soon settle down into a condition in which materials and labour, being entirely freed from Government control, would be distributed in just proportions amongst the various claimants for them. At the moment of release there might be some degree of spasmodic reaction; but this would very speedily be followed by an equitable readjustment. The architectural and building organisations would see to that; and we are strongly of opinion that the time has come when they should be given the chance.

Wanted, an Architectural Advisory Board.

Mr. McArthur Butler states his belief that a council combining all the architectural interests would deal promptly and powerfully with any such crisis as that which threatens further affliction to the profession at the hands of the Ministry of Health. Let it be quite clearly understood that we are not accusing the Ministry of intentional hostility towards the profession. Such a charge would be unjust and ungrateful; for it must be acknowledged that this Ministry has excelled all other Government Departments in courteous consideration of architectural interests. Whatsoever share it may have had in shaping this Bill was no doubt due to the excellent intentions, coupled with or arising from an inadequate survey of the situation. To whom should we turn for the enlightenment of its very pardonable ignorance of matters that for their successful handling demand the knowledge and experience of a committee of experts? It might, of course, and probably did, seek, more or less casually, the advice of architects and builders; but such advice has but little weight or authority. A Government Department could not, nowadays, excuse its policy on the ground that it was acting on the opinion of "eminent experts," selected haphazard, or after the manner of a "packed" jury, or foisted upon it by an aggressive sectional interest. There must be some body of ecumenically constituted body, some Amphictyonic Council, to which it can go for authoritative and—on the highest point possible—disinterested advice on matters in which it needs faithful guidance. Such a council, which of course would have other functions besides that of leaning-post to weak-kneed Government Departments—should be a council of all the talents, should consist not only of members of rival architectural societies, but should include also representatives of all the departments of our great industry, with a sufficient sprinkling of outsiders to keep watch over the interests of the client or customer. Such a joint committee would last very long. Not because it would necessarily contain within itself the seeds of early dissolution; but because it would soon develop into, or be superseded by, something composed of more closely related units, assembled not fortuitously but systematically, being, for their part, members of one body, which it would be regarded as deputed to serve.

Fusion or Fission?

Would an ecumenical or Amphictyonic Council of the R.I.B.A. and the Society of Architects into a communion, impelling them to pull together rhythmically, if not all together in the same boat? Certainly might have that effect, but there is little fear that it thereby postpone ultimate fusion of the two organisations. More probably it would accelerate the movement because by bringing the rivals into closer touch it

hem greater mutual respect and a riper understanding of the issues between them. Sooner or later the rival organisations must unite. Nothing seems more certain; though, it is true, they have been for years coquetting this idea, their coyness is not likely to endure indefinitely. So stupid a situation cannot survive a serious assault, and signs are not wanting that in general advance towards reconstruction such an effort will form an item in the plan of campaign. For, thus, the two organisations have much to gain by uniting, and what they have already lost by fission will bear examination: it is too utterly deplorable to contemplate calmly. It is not only that so much wicked material waste goes on year after year through duplication of effort, the effort doubled, and the effect divided, infinitely more terrible, because incalculable, is the effect of divided counsels—an effect that, keenly felt by the members of the rival organisations, reacts on the public and on Parliament. All this was realised by the organisations ten years ago, when there was an attempt though somewhat feeble attempt at coalescence. A decade of which the latter half has been consumed in world-war carries us back into the dark ages of the profession.

Towards Professional Solidarity.

Is it not Mr. Gladstone who said that in matters of public policy there were always three courses open to the Government? Three courses suggest themselves with respect to the rival organisations of architects: (1) The stronger could endeavour to crush the weaker; (2) the two could form allied societies, each autonomous, but would perpetuate the existing conditions of over-extended effort, divided authority, and weakened influence; (3) the two bodies could coalesce, in which case the profession would "go solid" for Registration, and annihilate the chief objection to Registration—the demand for it lacked unanimity. Now, the third course, while in our judgment infinitely the best, possibly the most difficult, if not entirely the most desirable, of the three. Members of the parent organisation might continue to object, as they have done before, to the logical consequence of coalescence—the temporary special exemption from the regular examinations for Associateships and Fellowships. This is a rather delicate subject to discuss, and we do not propose to go into it just now. All that need be said for the moment is that, sooner or later, it must be faced. There is, one might imagine, a far better prospect of success than there was when the issue was tried ten years ago, if only because the war has created among us a keener sense of brotherhood and a much greater familiarity with self-sacrifice. For it cannot be denied that a certain degree of self-sacrifice will be required to enable a man to swallow his very natural resentment at seeing his efforts obtain so lightly the degree to which he attained it with much travail and no little expense. But, after all, that is a personal, and need be only a transient, consideration, and should be suppressed for the general good of the profession. Merely personal considerations will, we are sure, give way before the larger issues, when the issues are visualised more vividly. On a just balance of loss and gain, Associates and Fellows would have good reason to rejoice if the Institute's New Charter were made to incorporate the entire profession. That would be an achievement well worth a little personal sacrifice or negation for the sake of solidarity.

The New School Buildings.

Architects may derive a useful hint or two from an address contributed by a medical officer of health to "The Architectural Educational Supplement." His first point is that much more attention should be given to the selection of site. This is a true indictment: "In the case of large cities, tall warehouses often prevent the access to sunlight and diminish free ventilation, and inadequate curtilage serves for a playground, and

the drear and dismal environment of slumdom is not escaped even while the children are in school, for cleanliness, brightness, and space to move about in are lacking." He notes the modern tendency to separate the business and manufacturing areas from the residential quarters, and remarks that education authorities controlling schools situated as he has described could sell the unsuitable sites to such advantage as to be able to build better schools within a more suitable environment. The medical officer's second point is that the temptation to perpetuate large classes should be removed by planning none but small ones. He would abolish the central hall. Evidently he thinks it an unmitigated nuisance, and the only excuse for it that we have ever heard—that it is useful for massed assemblies for physical drill and so forth—he partly discounts by declaring that physical exercises should be taken in the open air, even in wet weather, when the playground shelters would afford sufficient protection. Other recommendations are—that lavatory and bath accommodation should be abundant, with hot water supply to both; for if, says this thoughtful authority on school hygiene, "the purpose of education is to train children in good habits and set them a good standard, we should begin in the school, and provide such facilities that personal cleanliness and the correct use of sanitary appliances becomes instinctive." Finally, the doctor expresses surprise that more attention has not been given to the comfort and convenience of the teachers, who, he thinks, should, through their National Union, state categorically what they consider to be necessary to welfare and efficiency in the schools. Is it not passing strange that the very persons who are most intimately acquainted with the requirements have never been consulted about them, except here and there, and quite casually, by some architect of an inquiring turn of mind. Practical educationists could be almost as useful to the school architect as the school medical officer has been, but, unlike him, they do not usually generalise. On particular points, however, the architect makes it a point to consult them very freely. But such essential data as teachers alone can know should not be gleaned at haphazard; it should be collected systematically, as, indeed, it has been in times past, for immediate burial in ponderous Blue Books. The published reports of an educational Whitley Council should be of considerable service to the school architect, who, howsoever wide his experience, cannot be expected "to know it all."

The Danger of Bad Building.

Although we are unable to agree with the National Housing and Town-planning Council, whose circular to members of Parliament is summarised on page 699, in their implicit contention that almost every kind of building, except that of dwelling-houses, should be forbidden by the State, and while we by no means concur in the estimate that housing schemes will in the next few years absorb all the labour available, we are nevertheless heartily in accord with the Council's plea for the maintenance of a decent standard of building. From the outset, we have repeatedly urged the duty of supporting the State in its resistance to the impatient and importunate clamour of irresponsible newspapers which would have rushed it into the cheapest and nastiest kind of building; and we share fully the Council's opinion that the Ministry of Health should not accept designs which fall below the standard set in the housing manual. No matter how urgent the need for housing—but certainly it has not been under-stated—it must not be met by giving full licence to the cheap builder to do his worst. National housing exigencies have offered unexampled opportunities for good or for evil building, and the Ministry of Health deserves the support of all good citizens in its strenuous effort to resist sinister influences. The circular from the National Council should greatly strengthen the hands of the Minister and prevent any possibility of the powers of darkness prevailing against him.

A Visit to a Country Villa Eighty Years Ago

WE all know the delights of a week-end in the country, especially when we go down as guests to enjoy the hospitality of friends or clients who own architectural gems, either designed by ourselves or belonging to the comedy of the Renaissance in England, the particular school does not signify. One of these days the writer hopes to entertain his readers with a humorous account of such a visit, pointing out the effect modern building, furniture, and appointments, not to mention antiques, have upon his mind, and to make mildly satirical observations. The present article owes its origin to an old diary which was recently discovered, and hastily read through, and which turned up with a miscellaneous collection of drawings and sketches formerly the property of a famous architect.

Thursday, December 10, 1840.

I am tired of London, and sick to death of chartists, railways, and penny posts. My architect friends talk of nothing else but first, second, and third Pointed, much to my disgust, for I am certain the only way to end the present state of chaos in building expression is to follow the Greeks. What could be better than the villas designed by my friend Burton, the development of Cheltenham under the guidance of Papworth, and the new façade to the Athenæum? Why will people ask for Gothic when Classic is the style? To-day I am expected to journey down to Mangelwurzelshire, at the request of my client Morris, the rich brewer, to advise on the expediency of adding to the stable buildings. I know the place, not a bad little box, but full of faults. Donthorne could elevate reasonably well, but his plans—perhaps I shall be able to point out the defects.

Evening.

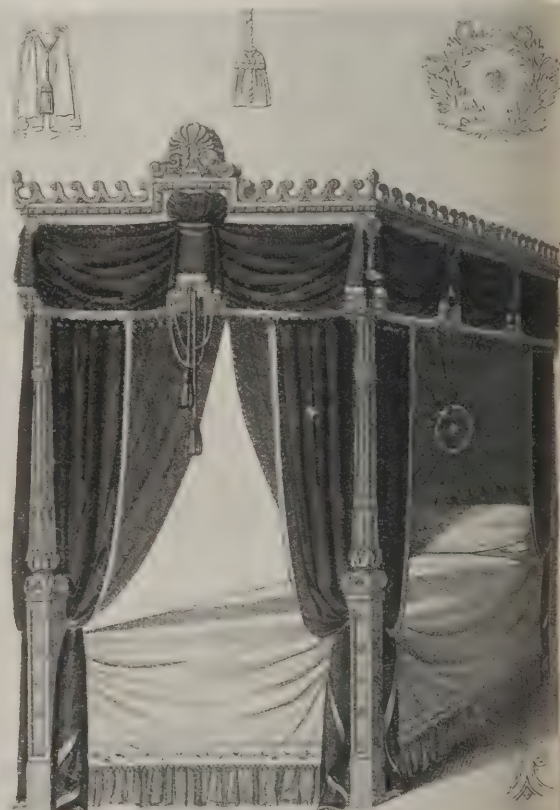
I have had a trying journey from Montague Place. First, my assistant, Rowley, could not find last week's issue of the "Civil Engineers' and Architects' Journal," a publication with which I hoped to beguile the

tedium of the railway coach. Secondly, in the present state of my nerves, I found the shunting operation at Euston Square, especially the hauling to Chalk Farm, very trying. Lastly, from Euston to Bletchley, I could not avoid the insipid conversation of an officer of militia, who insisted on retailing a full account of his experience in the 1st Mangelwurzel during manœuvres at Chatterton. Bletchley is a depressing place, as all these railway centres are. Why in the name of Vulcan did the Birmingham Railroad people run their line so far to Fenny Stratford? Perhaps they thought it dangerous to risk an embankment near the Grand Junction Canal.

At the station I was met by my client Morris, who was seated in his State travelling carriage, which had four horses, gilt hammer cloths, gilt ropes, and Sheffield plated harness. The vehicle was certainly splendid. I wonder a rumour gained local credence that Morris had rivalled the Duke of Mangelwurzel in his choice of chariots. We proceeded through fine rolling country, by beautiful fields, and third Pointed church towers, the latter elegant enough to please Rickman, Pugin, Peto, and the whole of the Camden Society. Ah! I thought how pleasant it would be to give up practice and retire to these beautiful solitudes; these highroads, kept so rural with scarcely any coaches or threats of shrieking locomotives! If I had the money, Montague Place should know me no more. At Sloburn we stopped for luncheon at the "Mangel's Head." After the meal my client introduced a shagreen and silver cigar-case, and we spent twenty minutes looking at the shop fronts designed by my worthy friend Maddox, who, by the way, must be an octogenarian, for he taught me to draw in the year of Waterloo. Coachman Williams had attended to the horses, and Footman Sharpe held the door open by the time we had finished our tour. "Nice place, Sloburn," snapped Morris: "you should see the Palace, my friend; there is a bust there of Holland, who built a house for



Bookcase.



Bed.

TYPICAL FURNITURE OF A COUNTRY VILLA OF THE 1840 PERIOD.



CHAMBER PLAN.

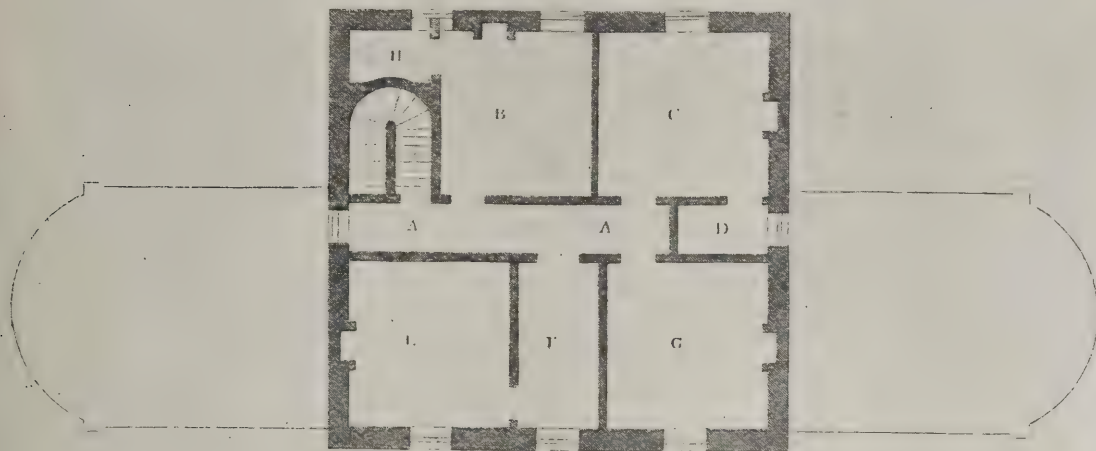


Fig. 3

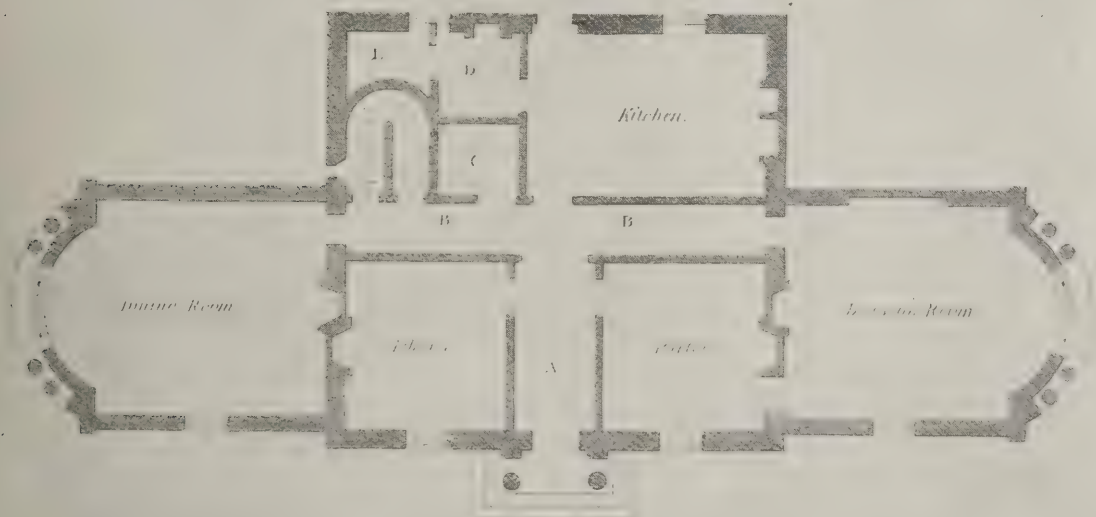


Fig. 2

GROUND PLAN.

A COUNTRY VILLA OF THE 1840 PERIOD.

father in the dark ages. The Duke has done a lot of these parts. Next week I will drive you over to see the Duke's Rise; you might get a tip or two for thatched roofs!"

What a journey it has been, more like a State progress; young men pulled their forelocks and old women came to the stage doors to see the semi-regal carriage pass. It was getting dark when we rolled along the main street at Slumhill, past some enormous red-brick mansions with verandas and porches, one of which my client assured me was the work of Henry Holland, and so through a pair of iron gates, opened promptly by a fat woman, who emerged from a Doric temple. There were evergreens, and laurels on either side of the winding drive, and at the carriage came to a stop directly opposite the front of Slumhill Manor.

Saturday evening, December 11 1840.

I have had another busy day. Morris's house is really a fascinating place. Donthorne knows what Greek architecture is, but I don't like the position of his staircase. Sharpe, the footman, who, by the way, acts as valet, and general factotum, besides assisting with work in the stables and garden, brought my hot bath at seven o'clock. Whilst shaving I had a look at the state from the window of my room. There were splendid lawns cropped to a nicety; there were damp lawns of myrtles and evergreens, and there was also a small pond, and a heavy mist obscuring the distant hills of the country to the south. I also made mental notes of the stables, and had already committed my notes to the expense of a turret when the bell rang for breakfast. I descended the stairs and found Morris waiting for me in the parlour, where breakfast was laid. A few minutes after Mrs. Morris arrived, and we fell to discussing local news. "So glad to see you at Slumhill Manor, Mr. Fiba," my charming hostess remarked; "indeed, good of you to come. We are anxious to complete the alterations by the spring, if you think it possible." I hastened to assure the dear lady that everything was possible.

After breakfast Morris took me into his study to show me his collection of books, particularly those on architecture. If I remember rightly, nearly all Mr. Weale's publications were represented. There were also works of Stuart's, a volume of Piranesi's plates, publications of the Camden Society, a large framed map of Rome by Vasi, a complete Encyclopædia Britannica, Mogg's Road Book. Winkle's Continental Travellers, and some loose drawings by Joe Nash.



Library Bookcase and Secrétaire.



Drawing Room Chairs.

Before we discussed the proposed additions to the stable buildings, Morris insisted on showing me the house, of which he is exceedingly proud. "You know, Fiba, Donthorne is a very clever man, but frightfully ill-tempered, otherwise you would not be here to-day. I designed the house as you see it: the whole arrangement is mine. Donthorne merely drew the plan." "Just so, just so!" was my reply. I could tell at a glance that no other pencil but an architect's had traced the design of the rooms, and it was borne home to me that the faulty position of the staircase and other parts was the outcome of Morris's interference.

Slumhill Manor is a nice Grecian villa, with aristocratic pretensions. You enter between two Doric columns, blanketed in ignorance, and chance upon a hall, stone flagged, with a parlour on the right and a library on the left. Eventually you reach a dark corridor leading to a pleasant drawing-room at one end, and an equally pleasant dining-room at the other; but the fact of the kitchen opening directly on this passage is, to my mind, a drawback, for a heavy smell of cooking permeated the whole suite of rooms. "Balance and symmetry you will observe, Fiba, are the attributes I desire in architecture." I would that the worthy brewer confined himself to the business of malt and hops.

Morris continued: "Nice place, isn't it, refined and unpretending—a great advance since Holland built the house I showed you last night. Would you like to see the furniture I have just purchased? It has been designed by a man called Nicholson."

We made our way through the five upstairs rooms, Morris giving a running commentary on his worldly goods. "One of these days I shall ask you to give me your assistance regarding several improvements," he remarked, after I had praised a particularly handsome bookcase.

Together we walked round the stables, and after a few minutes' talk, during which I received many conflicting instructions, Sharpe held one end of the tape while I took several dimensions, resolving to charge an extra fee in any case.

Saturday evening, December 12, 1840.

I have already been absent from Montague Place nearly three whole days, and I am beginning to wonder whether that rascal Rowley is getting on with the tracing of Sir Charles Rawbuck's house, which has to be ready by next Tuesday. When the second dinner bell rang I had but to complete the finishing touches to my get-up. Thank goodness I had brought the black kerseymeres, the rich cut velvet Genoa waistcoat, the white cravat, and other articles of polite living. Although I like this country existence, if I don't get away by midday to-morrow I shall go mad. Dinner was laid in the large dining-room, the walls of which hold the painted heads of a dozen Morrisises, male and female, who solemnly

gaze down on the silver candlesticks and plate, and seem to smack their lips in approval after every course.

After dinner we adjourned to the drawing-room for a little music and coffee.

I nearly forgot to mention that several local celebrities were present at the dinner, and they can now be catalogued. Mrs. Morris, resplendent in a tremendous get-up, consisting of a huge semi-inflated crinoline of black satin, rather like the upper part of Mr. Green's balloon, an enormous head-dress, immense turquoise pendant ear-rings, that danced and flopped in a disconcerting manner, focussed the attention of the company on the poor unfortunate architect whom Morris had entrapped down to Slumphill in Mangelwurzelschire. "Dear Mr. Fiba has kindly left his dear Montague Place to advise us on some expensive alterations George contemplates." Heaven forgive the woman, I thought; it is only a loose 'box, and perhaps, with luck, a turret where it is badly needed. Mr. Luke Warm, the vicar, then put a pertinent question: "I suppose you have given Christian architecture a thought, Mr. Fiba? This is a Christian country, and much can be accomplished by the spread of anti-pagan doctrine." I hastened to assure the rev. gentleman that I thought of nothing else. There were two sweet maiden ladies of the company, both silver-haired, who followed the vicar's remarks with rapt enthusiasm. Mr. Drystone, who had been with Sir Charles Fellows in Lycia during the excavations of the rock-cut tombs, spoke warmly in favour of the Greek style. Fortunately, the sound of the harp, played by the youngest Miss Morris, and the tinkling of an improved tall and very upright pianoforte, put an end to what threatened to be a serious debate.

Sunday, December 13, 1840.

I have endured another dreadful day at the hands of Morris and his equally tiresome lady. This morning I was whisked off to the manorial pew at Slumphill Church and forced to listen to a tiresome discourse from the Rev. Luke Warm on the expediency of providing the blacks with flannel trousers. This day I have dined on pig's-

head soup, pig's trotters, pig's fry, and roast pig—monotonous sameness, washed down by copious draughts of the famous Slumphill ale. Thank God I am leaving here to-morrow.

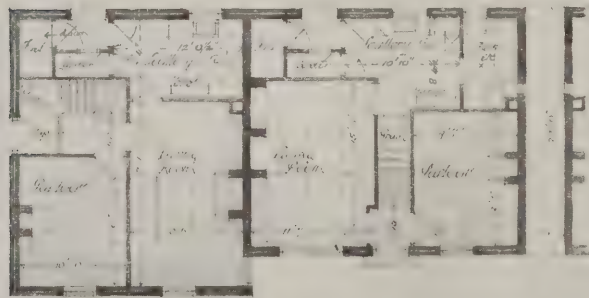
Monday evening, December 14, 1840.

Back in Montague Place, which I have reached after a seven hours' journey by the Dedford Regulator to Snophill, a village three miles distant from the metropolis. Rowley has finished Sir Charles Rawbuck's plan, and start to-morrow plotting the dimensions for the Slumphill stable. Yet now I am here, I would I were lying beneath Morris's roof, roast pig, ale, and all. I have an affection for that Grecian villa. I like the yellow rooms, the flowers on the writing-table, the heavy tapestry, the poster, the bed steps, the fragrance of the lavender-scented linen, and the general air of opulence. Moreover, I cannot forget the triumphal ride from Bletchley through Sloburn in the State travelling coach. There was all December mist and the dampness of winter; and it is worse, threats of riots, railway speculations, and architecture. Luckily, I have brought back a plan of elevation of Slumphill Manor and a few illustrations of Morris's furniture.

So these notes, compiled by the late Mr. Fiba, who departed this life of a pleurisy in 1864, have served the purpose of turning the lantern on a curious period of English country life. The writer can vouch for the accuracy of the detail; he can state with authority that the persons mentioned had reality, that Slumphill Manor still stands, though sadly burdened with frigid additions; that most of the heavily gilt English Empire furniture, designed by Nicholson, has found its way to obscure country hotels, that no libel is intended, and that only a deal of sympathy for the misguided, and that the architecture of the 'forties was not so bad as it is thought to be. One thing is of importance—namely, Slumphill and its appointments offer a very good key to the entire period of Victorian smugness and explain much of the lolling slackness featured after the Exhibition in the home of my Lord Dundreary.



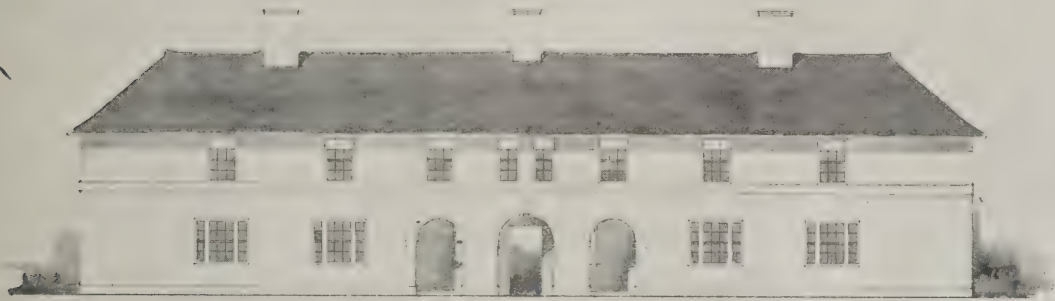
Front Elevation.



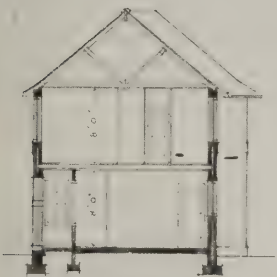
Ground Plans.



Front Elevation.



Rear Elevation.



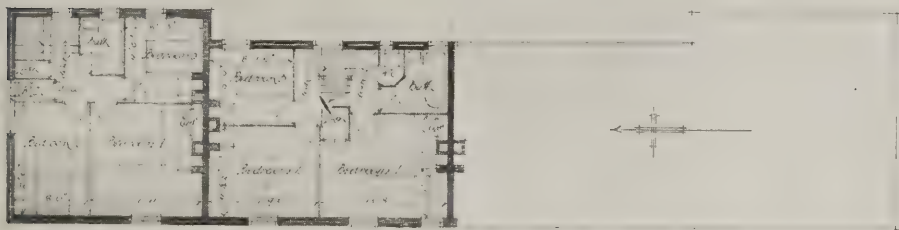
Section.

Schedule		
Room	Area	Notes
Liv. & Din.	188	174
Kitchen	128	113
Bedroom 1	143	130
Bedroom 2	6	5
3	74	71
Total	10080	11644
Cost at 75	£ 630	£ 774

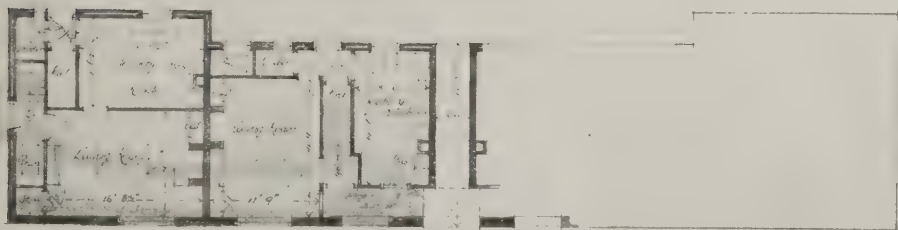


Side Elevation.

Scale of feet



First Floor Plan.



Ground Plan.

STRET福德 HOUSING COMPETITION, SEYMOUR GROVE SITE: WINNING DESIGN, TYPE A.
H. A. GOLD, M.C., A.R.I.B.A., AND W. J. DURNFORD, ARCHITECTS.



CHURCH OF ST. JOSEPH, NEWPORT, CO. MAYO. R. M. BUTLER, F.R.I.B.A., ARCHITECT.

Architectural Causerie

HAVE had the benefit of advice from an architect, who is a draughtsman and writer of reputation concerning the faults of modern design. My friend appears, attributes the principal fault to an inadequate knowledge of light and shade. In other words, he is a devout worshipper of form, and he knows intuitively that sound form means perfect distribution of light and shade. With this peg to hang my discourse I will proceed. Over a century ago Peter Schlemihl, of the pleasantest fancies of the days when Germany was engaged in romance, reached the public, and received a popularisation in England at the hands of George Cruikshank, caricaturist and temperance reformer. It was the product of the brains of Louis Charles Adelaide de Chamisso de Boncourt, who fled to Würzburg from the storm of the Revolution, in 1792. At the age of fifteen he became page to the Queen of Prussia. His was a melancholic disposition; he engaged in long pedestrian tours, and on one occasion he lost his hat, his knapsack, his shoes, and his pocket handkerchief; in fact, his chief belongings. His friend Fonqué asked him whether he had not also lost his shadow? The friends pleased themselves in imagining what would have happened to him if he had. Some time after he was studying La Fontaine, and read of a polite man who drew out of his pocket whatever was asked for. Chamisso thought he would be bringing out next a coach and horses. Out of his hints came the fantasy of Peter Schlemihl, the shadowless man.

We are told that Peter Schlemihl made the acquaintance of a mysterious stranger at a country house, where he was in attendance upon the rich owner. This grey man was called upon to produce all sorts of things at the moment's notice—refreshments, telescopes, horses, and so on, to the extent of twenty feet in length, and tents to ward off the rays of the sun. Peter states: "This man, although he appeared so humble and embarrassed in his air and manner, and passed so unheeded, had inspired me with a feeling of horror by the unearthly paleness of his countenance, from which I could not avert my eyes, that was unable longer to endure it." Judge of the horror of our friend Peter when he was subsequently approached by the man in grey, who asked him to dispose of his inevitable shadow.

Unfortunately Peter succumbed to the wiles of the man in grey, who snipped off the noble shadow of the shadowless one, as it lay extended on the grass, lifted it up, folded it together, and at last put it in his pocket. Peter's reward was the purse of Fortunatus. The man in grey then left him with many bows and salutations. Peter, of poor Peter's chagrin when he returned to the bustling town and heard people cry to him, "Young man! you have lost your shadow!" From that day on until the expiation of his sin, and the warding off of other temptations, he was condemned to stay at home, or only to venture forth on sunless days or at night, for the absence of his shadow betrayed him, and he was like one accursed among his fellows. Now the notion of being shadowless that came upon Peter Schlemihl is one that attends the majority of English architects. I know, dear reader, what you are thinking of; you imagined that in this wretched climate of fog, rain, snow, slush, and muck may temporarily obscure the lineaments of our buildings, but the goodly shines sometimes, and then, ye shameless façades, where!

Give a building a goodly shadow, and by this I mean not only a main softening, but also innumerable

little tricks and effects of chiaro-scuro, means that care must be given to the design. Even buildings of deplorable character look well in a fog, or can be made to appear presentable under the needle of a painter-etcher. Subject the majority of the buildings of London, Manchester, Glasgow, Liverpool, or Brum to the glare of a July sun's collected rays, and you will see them frizzling like bottled wasps. A building designed for shadow effects will carry itself well in sunshine or fog. Wren's work holds the darks well, even when the weather is dull. St. George's Hall, on the blackest day, reveals vèlèty spacings darker than the sooty colour of the Darley Dale stone columns and pylons, because Elmes guaranteed a reasonable shadow to all its parts. If buildings are well proportioned, irrespective of style and climate; if the details are well considered and the character is appropriate, then we need have no fear that they will not more than hold their own.

Most designs are born sickly, with little substance to throw a shadow. Many architects imagine that a line drawing is the all-in-all of an architect's creed. The building looks plain on paper; to cure this it is covered with meaningless ornament, "to give it life, don't you know." The cornice is restricted by the absurd regulations of Gog and Magog or of Helen and the shield, goddess of the L.B.A. This feature is snubbed and checked; it is broken over the pilasters; it rushes up into melancholy pediments, which open to receive a window or snap inconsiderately at a critical juncture. I know of façades resembling the carpentry in stone of the Lycian tombs, or any other form of timber construction. Giant wedge-shaped key-stones split the façade into countless parts, and these features are prominent in the basement storey; they recur as features to every architrave; they are repeated in the species of railway culvert above the main cornice. There is neither rhythm nor repose. Sometimes to vary the monotony crustacean cartouches and fearsome concerts of meaningless form score the pristine beauty of the stone. Why all this maltreatment of an honest material? Of late cartouches have given place to horse-tail ornament, a species of pointed bay leaves hung in clusters. Shades of De la fosse, what foolery is this?

The truth is that English architects have forgotten the value of the shadow. Some of us advise the plain brick walls of Bloomsbury with the paving-stone cornices. We do so because of the play of light and shade on the front of these brick cabinets. The reveals to the windows give defined shadows; the continuous balconies at the first-floor level throw a respectable shadow, the spear-like railings act as introductory features. Add a decent doorway, throw in an elegant lamp-holder, ensure that the first-floor windows are well proportioned, and then rain, fog, or shine, the strait-laced fronts looks well. They are passing, these old burnt-clay houses of London town. Already the shadowless ones are taking up positions in their midst. Do not imagine that I advocate the whole of new London to be built on these lines. On the contrary, for the purpose of finding something to write about I am simply making impertinent comparisons. At any rate, I like these old buildings, and so do you, dear reader, and so does every thinking person for that matter.

There are occasions for plain architecture, and times when complex forms are to be encouraged, but the reservation must be made, let the intricate buildings be richly complex, of an intricacy comparable with the Palais de Justice at Brussels, or the dazzling charms of the Houses of Parliament. I for one can admire the Albert Hall and the College of Science, or St. Pancras

Station, and am not ashamed to announce the fact. In the eighteenth century, when the Jesuits' perspective was published, long before Malton gave to an excited profession his treatise on drawing and shadows, few architects allowed the world to see their designs until the shadows had been rendered. This accounts in no small measure for the resultant charm of the eighteenth-century work which we rave over and enjoy to-day. The old fellows believed in quality and deportment; they did not bedizen their buildings with terrific stunt ornamentation; the shadow told them to a nicety when to stop, the right selection of ornament, the value of a silhouette, and many other things. Shades of Chambers, Wyatt, Cockerell, and the rest of the tall ones, how you must talk of the doings of the latter-day jugglers—that is, if you can view the streets as I see them.

* * * *

The rendering of drawings should form part of every architect's education, whether he be a Gothicism, Classicist, or an advocate of Chinoiserie. The early school of Neo-Grec in England was merely an attempt to continue the established tradition; what we have lately seen is like unto nothing on this terrestrial sphere. Greek key patternings, scratchings, flutings, and horse-tails do not make a style; neither do oxo railings, sculpture crouching uncomfortably on window sills, waiting for the deluge, bay windows, black iron curtains, and unfortunate columns perched on stone piers half a module wide and ten feet high. I am sick to death of the tortuous intricacies of the street façades of the last twenty years. There are some I would cheerfully go a mile out of my way to see. It is a pleasure to me to gaze upon Sir John Burnet's Kodak Building, to note the sylph-like shaping of the "Morning Post" office, or to see the pleasing incident of the loggia under the Ritz. Let us throw off the trammels of bad design, and take a lesson from our American cousins, who have bagged our tradition, and have developed it to the stage intended by our mutual forebears. Shadows we are and like shadows fade. Take heed, then, that the monuments of rock raised by creatures of clay project the right message to an enlightened posterity.

AERO.

The Plates Described

A Country Villa of the 1840 Period.

A DESCRIPTION of this typical early nineteenth-century villa and its furnishings is given in the entertaining "diary" which appears on page 678.

St. Joseph's Church, Newport, Co. Mayo.

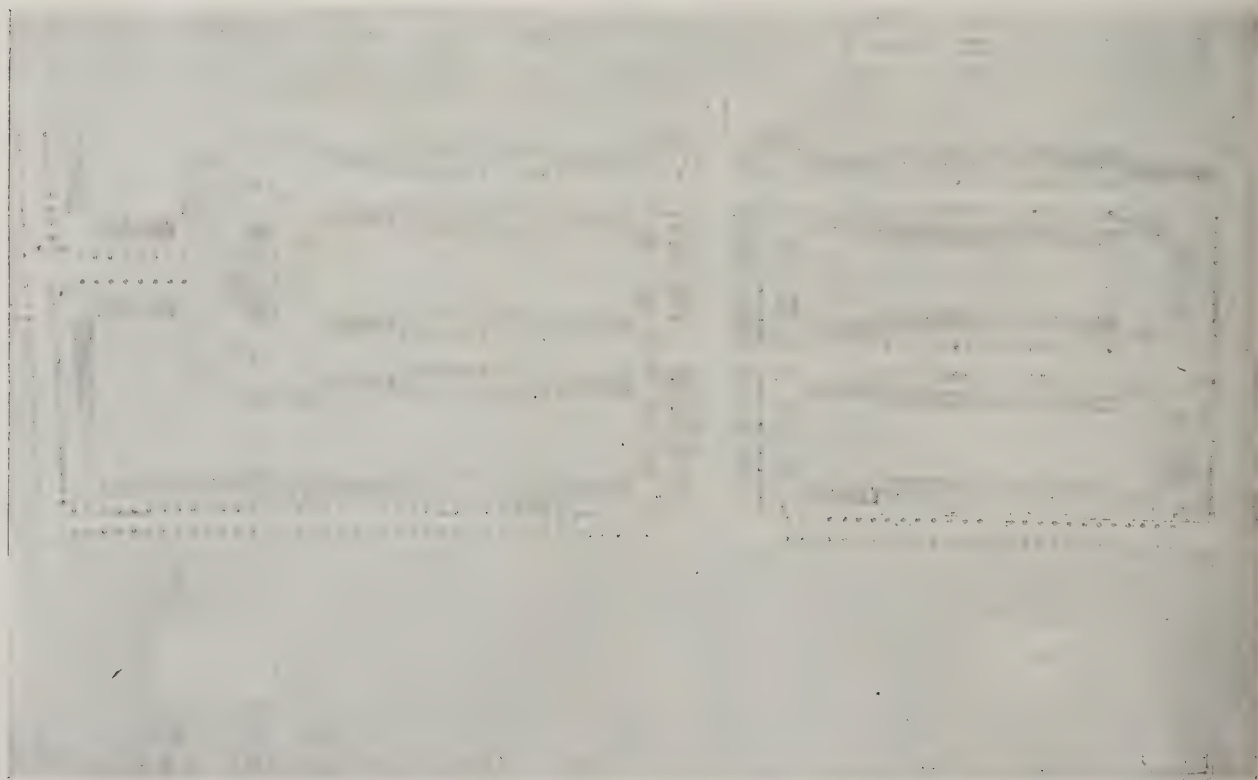
These views of an excellent example of modern Irish ecclesiastical architecture should be studied in conjunction with the working drawings which are reproduced on the double-page plate in this issue.

Stretford Housing Competition.

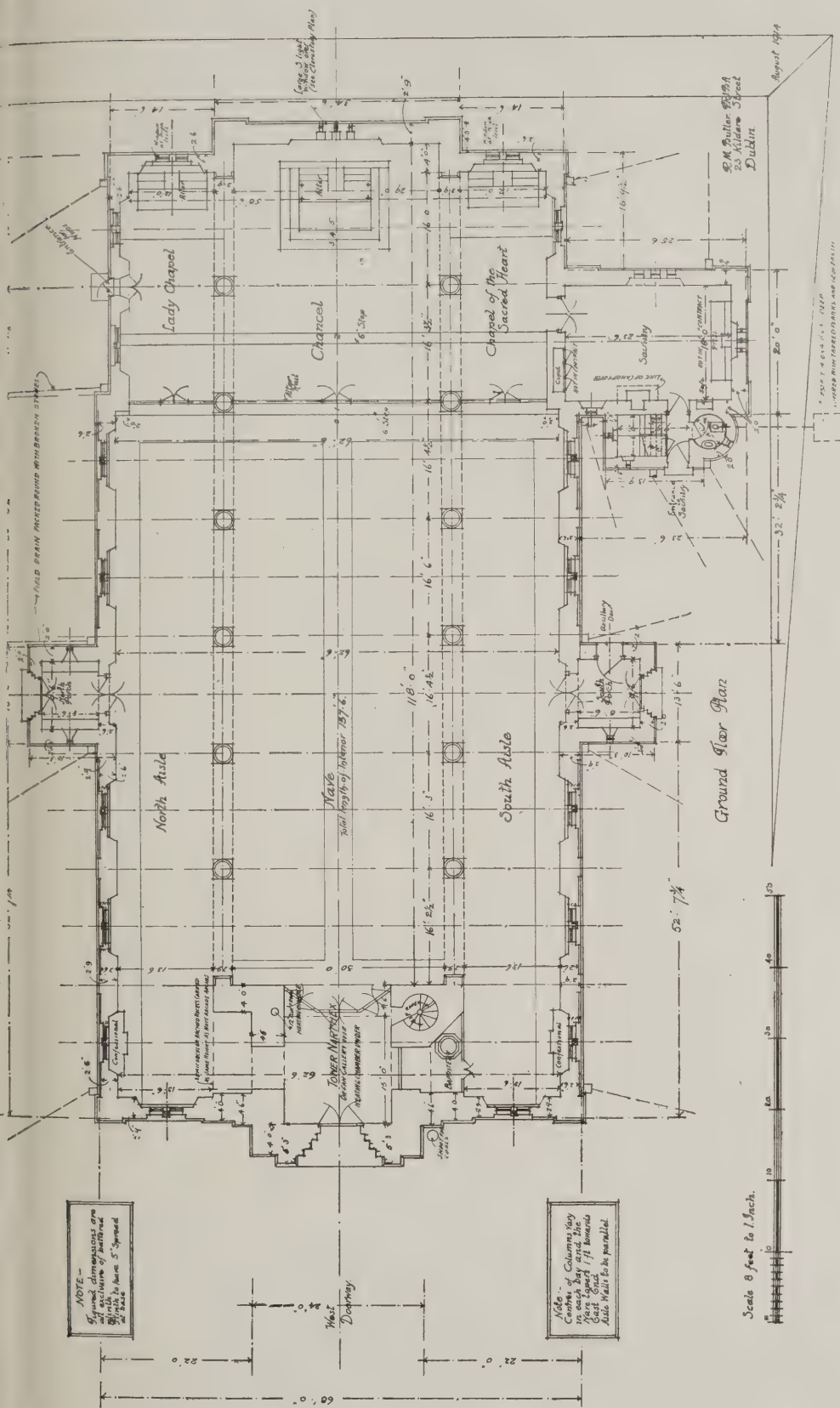
In this competition opportunity for arranging an attractive lay-out was curtailed by the provision of wide roads on two sides of the narrow site, the remaining boundaries being an existing road and a railway embankment. A further through road was laid down, dividing the site into two parts, and terminating, so far as the scheme is concerned, in a railway arch. The authors of the winning scheme, Messrs. H. A. Gold, M.C., A.R.I.B.A., and W. J. Durnford, confined their attention largely to economy in the remaining roads, and to diverting interest away from the railway. Designs for three different types of cottage were submitted: four-roomed, five-roomed, and six-roomed, the last-named being combined, in some instances, with five-roomed cottages, in order to fit in with the narrow frontages. The majority of the cottages are in blocks of four, and have east or west aspects. Professor Patrick Abercrombie, M.A., F.R.I.B.A., was the Assessor.

Housing by the Wolverhampton Corporation.

A timely letter of protest against lowering the standard of housing has been sent to Members of Parliament by the National Housing and Town Planning Council. The letter, the substance of which is given on page 699 includes a concise statement of the case against the old methods of speculative building and planning, the disadvantages of which are clearly shown. The superiority of modern methods is obvious from some illustrations of houses erected by the Wolverhampton Corporation, one of which is reproduced in this issue.



STRETTFORD HOUSING COMPETITION: LAY-OUT OF SEYMOUR GROVE SITE, WINNING DESIGN.



CHURCH OF ST. JOSEPH, NEWPORT, CO. MAYO.
R. M. BUTLER, F.R.I.B.A., ARCHITECT.

Prise Costing for Housing, Based on an Improved System of Quantity Surveying*

By T. SUMNER SMITH, M.Q.S.A., F.I.Ar.

(Concluded from No. 1299, page 664.)

ceding articles Mr. Smith dealt with the following points: Clerical work; cost negligible in view of advantages gained; fosters methods, good management, and efficient organisation; detailed schedule and values of materials employed in construction of houses; how saving in cost may be effected; detailed schedule and values of labour employed; comparisons for estimating.

ABLE as these data are for comparison, it is conceivable that the material and labour could be of for estimating by means of costing. By using forms in the manner an average price could be obtained, from which it would be possible to set a set of practical and scientific quantities to a great degree of accuracy without even obtaining any information.

were used for timbers, castings, etc. Very few goods were delivered direct on the site.

Economy in Design.

Up to the present I have dealt with economy in the use of materials and labour, and the economy that could be effected by means of good management on up-to-date business lines, efficient organisation, scientific costing, and accountancy. Another very important point is the saving

cubical contents, but not so good when compared with the results on costs reckoned on the gross and net area of accommodation. This will be demonstrated later by tables, which will show that it is an unsound policy not to take into consideration the gross and net area of accommodation.

An approximate estimate is generally obtained by cubing the building—the area, measured from outside to outside of walls, by the height, taken from the bottom of the footings to half way up the slope of the roof—and pricing at a given rate per cubic foot. Quite a number of books on housing give the cost to erect houses from calculations on this basis. An idea is prevalent that a uniform rate per cubic foot can be applied to all cottages irrespective of their outline provided that they are built to the same specification, and that the same class of materials is used in each. This does not prove to be the case in actual practice.

From the foregoing we draw three conclusions, which are as follows:

(1) That it does not follow that the design with the least cubical contents will be the cheapest.

(2) That the true economic value of a house is in the provision of accommodation rather than its cubical contents.

was brought and kept up to date; fluctuations in prices of materials and labour would result in a simple estimating. The time occupied in estimating would be very small compared with the time taken at present, and the results obtained would be more reliable than those based on ascertained data. As a concrete illustration of what can be done by scientific costing, the following useful as a guide to the contractor. Scientific costing would tend to reduce the cost of cottage building, as in the case of the work would be secured by a contractor who was able to keep the cost of the work below the average cost of the work, good management, efficient organisation, and up-to-date information. To secure work on a sound basis would encourage and result in the contractor and spur him to effort and success.

Schedule of costs the cost of haulage would be out at 4.86 per cent. Part of the cost of 3.66 per cent.—was for hire of lorries, and men, and motor lorries, and men's time. The remaining 1.20 per cent.—was made up as

that could be effected by an economical plan and design of cottage, which might be termed "economy in design." It is the prevailing custom to estimate economy in design by the cubical contents of the building, that is to say, that if a building be of less cubical contents than another it will be cheaper, and that the cheapest of all

Design	A B C D E	Table A.		Table B.		Table C.		Table D.		Table E.				
		Proportionate cost of each House.	Ratio in percentage of cost per house.	Average cubical contents per house.	Ratio in percentage of cubical contents.	Ratio in percentage of cost per house per cent.	Average gross area of accommodation.	Ratio in percentage of gross area per house.	Ratio in percentage of cost per house per cent.	Average net area of accommodation per house.	Ratio in percentage of net area per house.	Ratio in percentage of cost per house per cent.	Relative average values based on the net area of accommodation (chimney breasts, passages and staircases deducted) per house.	Relative average values based on cubical contents, gross area and net area of accommodation
a	b	c	d	e	f	g	h	i	j	k				
14.88	10.238	17.15	100%	717	16.89	100%	610	16.98	100%	100%				
18.87	10.445	17.41	124.17	767	18.07	118.64	620	17.26	124.82	122.61				
18.38	11.012	18.36	113.79	777	18.30	113.94	665	18.62	113.25	113.66				
18.30	11.854	19.76	106.44	857	20.19	102.87	726	20.21	103.30	104.20				
29.67	16.388	27.32	124.17	1,127	25.55	126.24	971	27.03	133.15	127.85				
100%	59.98	100%		4,245	100%		3,592	100%						

Labour.	Ratio to Total Cost of Cottages.		
	Percentage.	Approx. value per £.	
		£	s. d.
materials	12		0 1
...	12		0 1
...	17		0 1
...	22		0 2
loading at	38		1
haulage).	19		0 1
	120%	£0	0 2 1

will be the one with the smallest cubical contents. I shall explode this theory later. The gross area of accommodation and the net area of accommodation of the cottage must also bear some relation to the cubical contents in determining the economy of design. It may so happen that a building, when compared with another, may show good results on costs reckoned on the

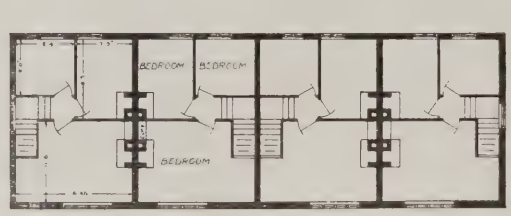
(3) That it is a mistaken policy to base the approximate estimate upon a uniform rate per cubic foot for all types of cottages.

These several points are set out in detail in the tables above.

The foregoing conclusions may be proved by analysing and making comparisons from the tables. Design "A" worked out in actual practice to be the

	a.	b.	d.	f.	g.	i.	j.	k.
Design D	18.30	19.76	106.44	20.19	102.87	20.21	103.30	104.20
Design A	14.88	17.15	100	16.89	100	16.98	100	100
Difference	3.42	2.61	6.44	3.30	2.87	3.23	3.30	4.20

DESIGN A



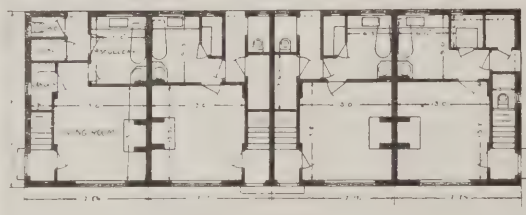
FIRST FLOOR PLAN



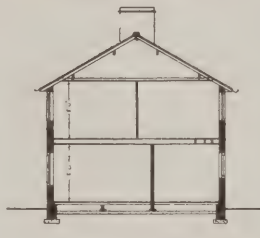
END ELEVATION.



BACK ELEVATION.



GROUND FLOOR PLAN



SECTION.



FRONT ELEVATION.

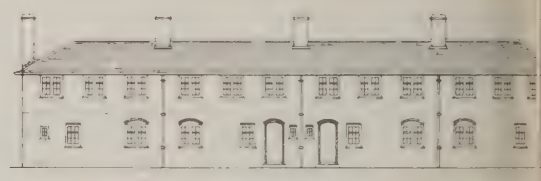
DESIGN B



FIRST FLOOR PLAN



END ELEVATION.



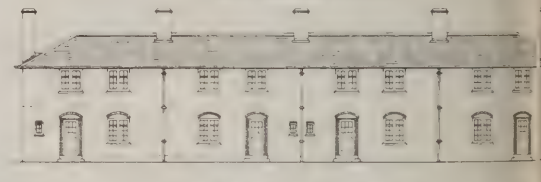
BACK ELEVATION.



GROUND FLOOR PLAN

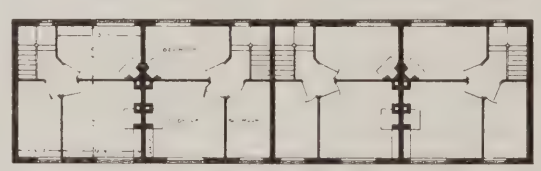


SECTION.



FRONT ELEVATION.

DESIGN C



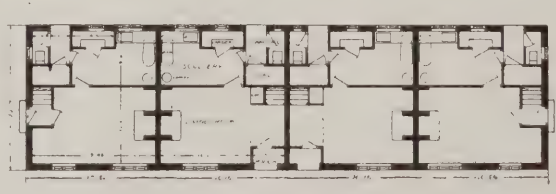
FIRST FLOOR PLAN



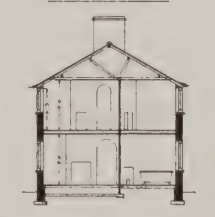
END ELEVATION.



BACK ELEVATION



GROUND FLOOR PLAN

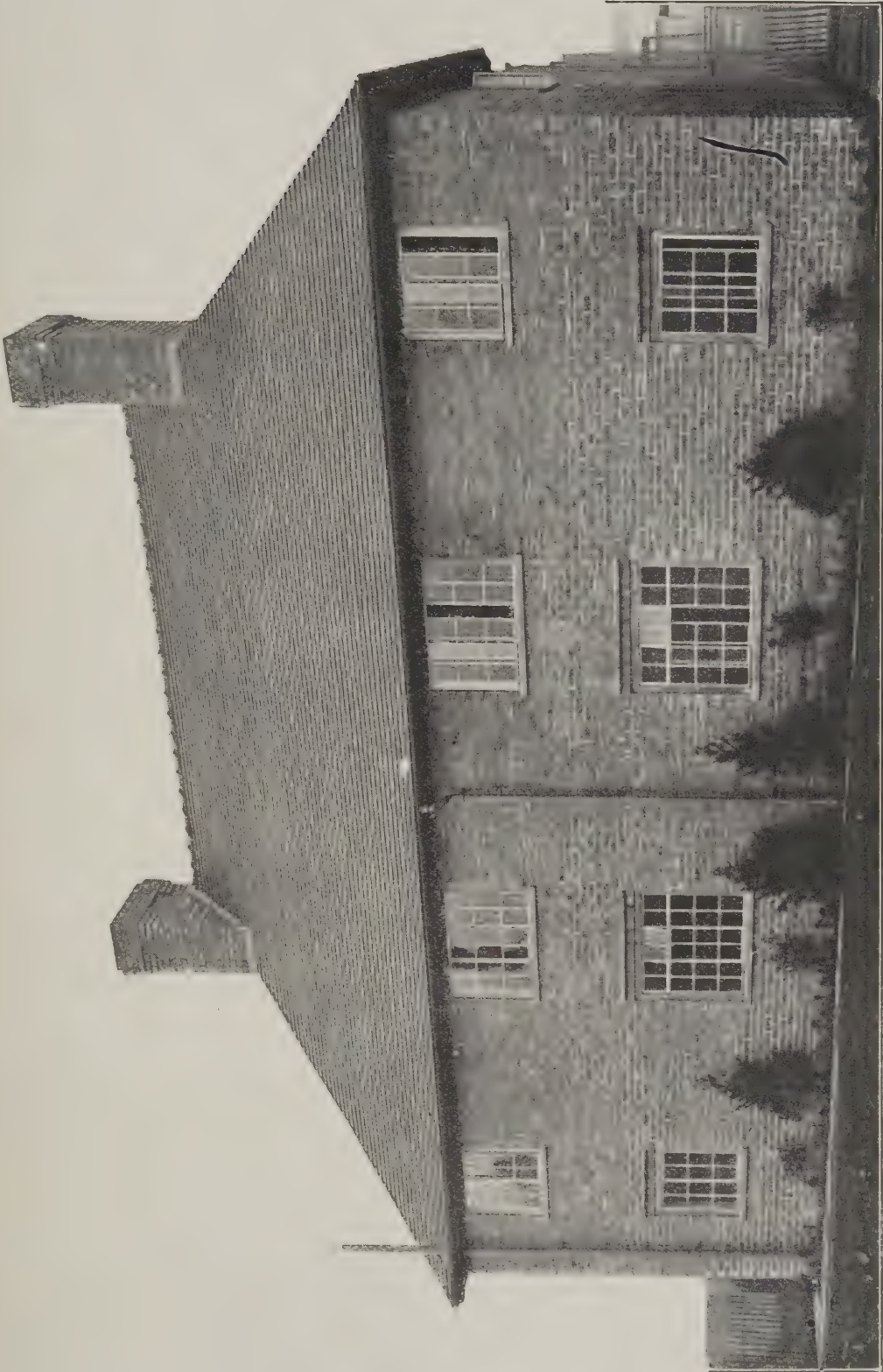


SECTION.



FRONT ELEVATION.

GOVERNMENT HOUSING SCHEME, MANCOT ROYAL, QUEENSFERRY, NEAR CHESTER.
(To be studied in conjunction with Mr. Sumner Smith's article on "Concise Costing for Housing.")



REAR ELEVATION OF TYPICAL COTTAGE IN A SCHEME LATELY COMPLETED BY WOLVERHAMPTON CORPORATION.
(See page 689.)

Design "D" second, Design "B" fourth, and Design "E" fifth. Comparing "D" (see table foot of p. 693), it is seen that "D" cost 3.42 per cubic foot; therefore a uniform rate per cubic foot—conclusion No. 3—is not possible in this case. The relative cost of "A" by only 2.61 per cent. (Column C) is 6.44 per cent. (Column D) dearer than "A." on the gross area of accommodation it is 2.87 per cent. (Column G) dearer than "A," and calculated on the net area of accommodation it is 3.30 per cent. (Column J) dearer than "A."

regard to Conclusion No. 2—true value—it will be seen that "D" is 3.23 per cent. (Column I) more expensive than "A," and the cost of "A" by only 3.42 per cent. difference only of .19 per cent. from this standpoint, therefore, the above figures are for all practical purposes value.

Comparing "D" with "B" and "C," the house with the least cubical contents is not the cheapest (Conclusion No. 1). As will be seen by reference to Column A, Design "D" is equal to 18.30 per cent. of the cost, "B" is equal to 18.87 per cent. of the cost, and Design "C" is equal to 18.38 of the cost. The respective ratios in percentage of cubical contents (Column C) are Design "D," 19.76 per cent., Design "B" 17.41 per cent. and Design "C" 18.36 per cent. Design "D" has therefore the greatest cubical contents, exceeding "B" by 2.35 per cent., and "C" by 1.40 per cent., and yet it is cheaper than "B" by .57 per cent. and "C" by .08 per cent.

To define the respective values per cubic foot for each cottage, we will assume the price per cubic foot for Design "A" to be 1s., and that 2,000 cubic feet would represent £100 (per cent. of cost, see Column D). The price per cubic foot for Designs "B," "C," "D," and "E" would then be 14.3d., 13.15d., 12.27d., and 14.3d. respectively, which goes to prove that a uniform rate is only applicable to Design

"B" and "E" houses. The designs of the above cottages are reproduced by kind permission of Mr. Raymond Unwin, F.R.I.B.A., and in the light of the above particulars should prove both interesting and instructive.

[With the foregoing instalment, Mr. Sumner Smith's articles in the Journal are brought to a conclusion. So widespread has been the interest aroused by their publication that the proprietors of Technical Journals, Ltd., have decided to republish them in book form, together with some important additional matter which is now in course of preparation. Mr. Smith's suggestions for the creation of a standard system of costing are the result of many years of wide and varied experience in several branches of the building industry; and we are confident that if the system advocated were to be generally adopted in place of the several methods at present in force, the effect would be of considerable benefit to the building industry and all concerned therewith—ensuring both accuracy and efficiency.]



GOVERNMENT HOUSING SCHEME, MANCOT ROYAL, QUEENSFERRY, NEAR CHESTER.

(To be studied in conjunction with Mr. Sumner Smith's article.)

Correspondence

"Concise Costing for Housing." To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—For the information of your correspondent "F," items such as roof timbers, joists, etc., are set forth in their exact length and size of scantlings stated in the bills of quantities, but in addition to this the amounts are given in standards. These quantities dispense with builders' working quantities and serve the same purpose.

T. SUMNER SMITH.

SIRS,—As an architect I am pleased with the manner in which Mr. Sumner Smith, in his articles on "Concise Costing for Housing," deals with the enormous amount of labour involved by present methods of pricing ordinary bills of quantities. I infer that, owing to the numerous and elaborate calculations that have to be made by the builder after the quantities are prepared, there appears to be every likelihood of many inaccuracies, and this must defeat the object of the present system of quantities, which endeavours to aim at the tenders being based upon a uniform basis. I note that the method which he sets out would avoid these numerous calculations, therefore there will be less liability of error and the tenders would be upon a uniform basis.

A.R.I.B.A.

SIRS,—I have been greatly interested in the articles which have appeared on "Concise Costing for Housing." Although Mr. Smith has dealt very clearly with the subject, there are two points on which I am not clear: He does not state how day-work items are to be dealt with under his system, nor what should be the amount of the contractor's profit, nor whether it should be competed for by the builders in tendering. I should be glad if he could give me some information on these points.

COUNTY ARCHITECT.

SIRS,—I am much interested in the articles on "Concise Costing for Housing," by Mr. T. Sumner Smith. The schedule of costs which he gives is a revelation in itself. I am afraid that in the past architects have regarded the cost of building as constituted by two items: labour and materials; but Mr. Smith shows that they are made up of thirteen items, and has, further, sub-divided some of these items. Comparing the examples of Mr. Smith's improved system of bills of quantities with the examples of ordinary bills of quantities, I was struck with the remarkable simplicity of his method and its far-reaching consequences, as demonstrated by the schedule of costs of materials and labour for each trade. I have profited immensely, and shall look forward with interest to the rest of the articles. Would Mr. Smith inform me if this system would be applicable universally?

T. MILNES FODEN, A.M.S.A.

SIRS,—I have taken the greatest interest in the articles by Mr. T. Sumner Smith on "Concise Costing for Housing," which contain some excellent data. A concrete illustration of the fallacy of present methods of arriving at costs was afforded by the report in the daily newspapers of the Housing and Town Planning Association Conference, held in Manchester. It

was stated that arrangements had been made at St. Helens for building 700 houses, divided amongst twenty builders, to be paid on the basis of the prime cost of building, plus 12½ per cent. for the use of the builder's plant, establishment charges, and profit.

I have compared this with the schedule of costs given by Mr. T. Sumner Smith, on page 604 in your issue of November 12, and note that the items relating to plant, establishment charges, etc., i.e., 4, 6, 7, 9, 10, 11, 12, and 13 amount to 12.29 per cent., leaving the builder the magnificent profit of .21 per cent., which shows that the matter has never been thoroughly gone into. This is of considerable interest to architects, and I agree with Mr. Smith that it would be far the better method to calculate the profit as a net profit at a fixed percentage irrespective of plant, establishment charges, etc., and so avoid confusion.

B. W. F.

SIRS,—I have read with great interest the articles on "Concise Costing for Housing," by Mr. T. Sumner Smith. The system appears to give hope for sound and economical tendering, for the contractor to be able to gauge his profits on labour and materials, and, presumably, to look forward to an increased profit by using skill and ingenuity in carrying out the works.

Builders and contractors who have carefully analysed each trade would, I imagine, welcome the new system, for it saves a great deal of trouble in pricing and is a valuable help in the ordering of materials. The system, if adopted, could only be carried out by quantity surveyors who have made a special study of their profession, as Mr. Smith seems to have done, and it would do away with those who simply take off quantities as a side line, without realising the responsibility attached to the work.

P.A.S.I.

Luxury Building.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—A few weeks ago you were good enough to allow me to make a proposal through your columns for the formation of a Federated Council of Architectural bodies capable of taking joint action quickly in any matter affecting architects. I believe there are some faint hopes of the proposal receiving further consideration at some future time, but in the meanwhile a matter has arisen which could at once have been dealt with by the proposed body had it been in existence. I refer to the Government's proposal to introduce a Bill for the purpose, *inter alia*, of stopping what is vaguely described as "luxury building," with the idea of concentrating labour on the National Housing Scheme, or, in other words, facilitating one form of private building enterprise at the expense of another. By the time this letter is due for publication the Bill will probably be before the House of Commons, and architects should be ready to support their societies in any action which they may take with a view to having the Bill thrown out or amended, as may seem best.

In my opinion the Government proposals will not accomplish the end in view, but will merely hamper still further the building industry and aggravate the

existing artificial conditions caused by the Housing Act. By all means let us go back to private enterprise in building, let us do it by the removal of restrictions rather than by the further imposition of them on one section of the building community. Probably the Government have not taken the trouble to ascertain the amount of housing already provided under great difficulties by private enterprise, and which probably compares favourably with that accomplished by the Government with all its resources.

It should not be forgotten that the many building owners engaged in the present time upon private building schemes of a class which might to the official mind be deemed "luxury building," and who at the same time are providing working-class housing in connection with their schemes. For instance, a firm of architects in London have, by personal knowledge, at the present time work in hand for new business premises, garages, alterations to property ranging in value from £300 to £1,000, and aggregating a total of over £10,000. In each case the building owners are providing cottages and flats in connection with these properties at an aggregate cost of over £24,000, and in some cases are proposing to spend three times as much money on the cottages as they do on the "luxury building." The point is that if this "luxury building" is stopped, the housing schemes will not be proceeded with, and all concerned will be at a great loss and inconvenience. Nor is there any remedy is not to subsidise one class of building and stop another, but to remove restrictions on labour, increase production, stop profiteering and unemployment, facilitate transport, repeal restrictive legislation and restore to individuals the right to carry on their lawful business. In the debate in the House of Commons there was much talk of mobilising all the housing resources of the country in support of the Housing Act, but there was not a single reference to the services which architects are capable of rendering in this matter if they are given a chance.

The Government's proposals mean that architects who have for many years suffered as a result of legislation directed to the building industry, and who have had all their private work stopped in the past four or five years by the war, and just beginning in some cases to take up the threads of their practice, are to be penalised, quite unnecessarily, for some strong action is taken by the representative architectural bodies, backed by their individual members. Such action is necessary, and no doubt will be taken, but it could be much more effective if it could be concentrated into one channel with the whole of the profession behind it.

An academic protest against Government proposals is very little to go by default. It should be followed by further action, and I shall be glad to hear from architects who are likely to be adversely affected by the Government proposals, with a view to a strong action it may decide to take.

C. MCARTHUR BUTLER
Secretary of the Society of Architects

DANGERS OF JERRY-BUILDING.

National Housing and Town Planning Council, in a circular letter to members of the House of Commons, give assurance based on close, practical, first-hand knowledge of what localities are doing that for the greater part the delay with regard to housing is at an end, and that the coming year will witness a stream of constructive results. The letter, a brief summary of which is given below, predicts that early in the coming year the difficulty confronting the Government will not be one of unwillingness to enter upon building operations, but one of such extreme shortage of labour as to render necessary the consideration as to what extent it is desirable to allow construction that less necessary work in building shall be arrested in order to allow the housing schemes of local authorities to proceed.

The situation which is likely to present itself early in the New Year can be deduced from the fact that at the moment about 2.5 per cent. of the skilled labour forces in the building trade are unemployed. Several of the housing schemes of local authorities are already held up for want of bricklayers, and every day brings representations from local authorities to the need for action being taken by the Council to represent to the Government the need for taking steps to secure concentration of labour on housing schemes, even if this means taking action to restrict luxury or unnecessary building. What is needed at the moment is, therefore, not the hurried preparation of new schemes, but of policy—the adoption of which may involve the risk of destroying the hope of redeeming the standards of housing throughout the country—but which will place to the policy already embodied in the Housing and Town Planning Act. Housing schemes will in the next three years employ all the labour available for housing purposes, and any new scheme or plan can only have one effect, viz., the slowing down of the plans on which local authorities have already spent months of study, and for which they have secured land sufficient to build millions of houses.

There is a real danger—arising out of a lack of impatience at the slow pace of the work of construction—that well-meaning local authorities may take the reactionary view that, as long as houses are built their quantity and quality are matters of secondary importance. So far from regarding these matters as being of secondary importance, they are “things which are very much to the tenants of the houses.” The Council regard as even reprehensible the advocacy of the retention of worn-out and discarded types of construction—an advocacy which ignores the fact that it takes just as much labour and energy to build a badly designed house as it does to build a good house. This country is heavily burdened with mean houses standing in closely packed rows in dreary streets, and the Council are determined to support the proposals laid down in the Manual issued by the Ministry of Health. In his desire to forward the work of production of the Manual the Minister of Health has shown a willingness to accept designs of the standard of the Manual, but the members of the Committee are practically

unanimous in the view that to adopt this course would in the long run prove to be unwise.

A declaration was made by Dr. Addison that, as an alternative method, and in order to meet the difficulty which has arisen in securing tenders on the old basis of competitive lump sum tendering, local authorities might enter into arrangements with builders for the erection of the required houses on the basis of prime cost plus a fixed charge to cover profit, use of plant, and establishment charges. This policy will help to attract the building resources of the country, and will result in constructive economy. It is difficult to determine what further steps can now be taken by the Government, by local authorities, or by the constructive leaders of the building industry to lessen the delays in carrying housing schemes into effect, and what is needed is a steady adherence to the declared policy of the Government and a refusal to permit any further changes of policy or method to be imposed on local authorities against their better judgment.

There is a real danger that those who are not in a position to gain accurate knowledge of the real facts of the case may be “stampeded” into accepting reactionary views. For this reason the Council propose during the coming weeks to convene at a number of centres representative conferences of working men, and to urge the delegates to support them in taking the view that the local authorities have adopted a wise course in devoting adequate time and care to the preparation of the plans and designs on which hundreds of millions of pounds are to be expended by them on constructive work, and by refusing to be stampeded into the folly of rushing up great numbers of badly designed houses built of unsuitable materials.

Whilst the construction of poor houses on jerry-planned estates can be forced, the construction of well-built houses on properly planned estates calls for the application of skill in designing and wisdom in planning the lay-out, and whilst these qualities take time to apply on wise lines, they make all the difference to the happiness and comfort of those who will live in the houses in the future. All kinds of delays are taking place. Dr. Addison, Sir James Carmichael, and the other officers of the Ministry of Health, are now, together with the great mass of the members of housing committees of local authorities engaged in a fine endeavour to carry into effect on sound and good lines a great housing policy, and therefore deserve to be given the support and confidence of working people throughout the country.

Appended to the letter are a number of illustrations, one of which we reproduce. The Wolverhampton County Borough Council have now in hand the building of 1,000 houses, of which this is an excellent example. The illustration shows that, by the exercise of architectural skill, the plan formerly adopted by speculative builders of constructing gloomy rear extensions can be replaced by a more economical and healthy form of construction. Under the old methods of speculative building houses were built from “blue prints” *ad infinitum*, and certainly *ad nauseam*. For the first time in the history of working-class housing skilled technicians are being called in to give architectural care to the design.

The National Housing and Town Planning Council also enclose with each

letter a copy of their memorandum and resolutions submitted to the Minister of Health by a deputation received on November 5, 1919, from a joint meeting of committees of the National Council relative to: (1) The causes of delay in entering upon the actual work of cottage construction, and the methods by which more rapid progress can be secured. (2) The possibility that in the later stages of the execution of housing schemes serious delays may arise as a result of a shortage of the supply of building materials and labour available for the purpose of cottage building. (3) The raising of money required for housing schemes, and the report of the deputation proceedings and the reply of Dr. Addison.

MANCHESTER SOCIETY OF ARCHITECTS.

Mr. Isaac Taylor, F.R.I.B.A., in his presidential address to the Manchester Society of Architects, gave a brief résumé of the part played by the Society in connection with the Manchester housing scheme. Several months ago, he said, a special meeting was called, when he outlined the scheme in which the Society was invited to co-operate. The President's committee had met weekly, and up to the present time the five estates being purchased by the Manchester Corporation at Gorton, Rusholme, Clayton, Newton Heath, and Wilbraham Road, and the one estate purchased by the Prestwich District Council, had been laid out under the chairmanship of members of the President's committee, and seventy-five architects had been appointed to co-operate in the erection of the houses. The selection of architects was a difficult and obviously an invidious task. Many architects were, perhaps, wondering when they would see some of the results of all this organisation; and when the houses would begin to be built. He did not think the delay had been the fault of the architects, and it was hoped that building would soon be in progress on most of the estates. The scheme was being watched with great interest by the Council of the R.I.B.A. and by architectural bodies all over the country. Several of the allied societies to whom the scheme had been explained hoped to get similar schemes to work in their areas. Possibly one of the most useful results to architects on the Manchester housing scheme would be the practical illustration of the possibilities of co-operation. They had tried, as far as possible, to pool ideas and to act together, and he hoped that this would react on their future relations together, so that they might come into a real federation of architects.

The question of the Piccadilly site seemed at last likely to be solved, and an art gallery to be the most fitting Peace memorial for the city. When early this year the scheme for building the art gallery was brought forward the Council wrote to the Corporation expressing the hope that no definite steps would be taken in the appointment of an architect until the army was more nearly demobilised. The Corporation fell in with the view, and so far no definite steps had been taken. Now that most architects were home again they would soon hear something. Many of them felt that the usual form of competition for a large public building was unsatisfactory. Competitions were an unfair tax on the profession. Absurd examples might be quoted where the number of competitors was so great that

the cost incurred by them collectively would equal the actual cost of the building to be erected. Could some other way be found?

The results taken generally were not so manifestly successful as to warrant the continuation of such a cumbersome method. They did not want to lose the opportunity for unknown genius to come forward, which was the great argument in favour of the present system. Whatever the method, they hoped that the coming year might see the beginning of an art gallery worthy of the site and of the city. With regard to the School of Architecture, which had just kept going during the war, Mr. Taylor stated that there was a good rally of students. This no doubt was partly due to the action of the Government in instituting training grants for demobilised men whose training was in progress, or not yet started when the war broke out. Candidates for the grant were being interviewed weekly by the Board of Architects and Surveyors.

SUBSTITUTE BUILDING MATERIALS: "WOODCRETE."

The following is another instalment of the critical reports of a qualified architect on the more recent substitutes for building materials: At a time when the scarcity of building materials is admittedly causing anxiety to those responsible for the erection of the vast number of dwelling houses for the people, required under the comprehensive schemes now being sanctioned by the Government, it is of importance that architects and contractors should be acquainted with such substitutes as are in any way likely to ameliorate the present adverse conditions by affording a means of reducing the abnormal demand for the more ordinary kinds of building materials. It is proposed in this article to give some account of "Woodcrete," a recently introduced building material with which house construction may to a large extent be carried out without the employment of either bricks or timber. The material is composed of Portland cement, prepared wood dust and a mixture—mainly consisting of a waste product—which has been found to possess the very valuable property of insolubility in acids and water. Discovered by a practical mechanic in Wales about eight years ago, "Woodcrete" has since been subjected to exhaustive laboratory tests, which were so satisfactory in their results that the material was patented, and first used under actual building conditions in the construction of some floors at Crayford in 1914. Since then it has been employed in the building of houses where the walls, window and door frames, ground and first floors, chimneypieces, and roofs were all constructed of this composition.

With regard to its application to floor construction, it may be mentioned that two types of floors, 7 in. in depth overall, with clear spans of 8 ft. 8 in. between bearings, and 13 ft. 8 in. respectively, are recent developments, and may be seen at the company's works at Battersea, London.

These floors are exceedingly simple in design and consist of a continuous series of "Woodcrete" beams of inverted T-section 6 in. deep, laid side by side, and touching one another. The width of the flange is 12 in., and the material throughout is 2 in. thick.

A steel wire reinforcement $\frac{3}{8}$ in. in diameter is inserted in the bottom of the web for beams up to 8 ft. span, and two

$\frac{5}{8}$ -in. reinforcements—one above the other—where the span is greater.

The breeze or other filling occupying the intervals between the webs is not directly supported by the flanges, but by segmental centres of "Woodcrete" resting on their upper surfaces. By thus raising the filling, material is saved, the floor is lightened, and arched spaces (equal in length to the entire width of the room) are available for gas tubing or electric light wires. Floors constructed on this principle, it will thus be seen, are self-ventilating. A half-inch layer of "Woodcrete" flooring composition—of dark red colour and capable of taking a polish—completes the upper surface of the floor, while the under surfaces of the flanges require only $\frac{1}{8}$ in. of plaster to form the ceiling.

"Woodcrete," which weighs from 80 lb. to 90 lb. per cubic foot, may be cut with a saw, and drilled with ease. It will also receive screws or nails almost as readily as is the case with wood, and, while it possesses damp-proof qualities, it is at the same time an acid resistant.

Of even greater importance, perhaps, is the fact that it is, in the strictest sense of the word, incombustible. The writer of this article has experimented with the material, and is satisfied that the patentee's claim on this head is justified.

Notwithstanding its lightness, which it need hardly be pointed out is a matter of great moment as affecting the foundations, "Woodcrete" has been found by careful tests to have a crushing strength of over sixty tons on a piece measuring 9 in. by $4\frac{1}{2}$ in. by 3 in.

For wall construction the material is cast into angle and intermediate blocks, into which are fitted a double thickness of 2-in. slabs separated by a 2-in. cavity.

The inner slabs being to some porous, condensation is effectually vented. Very little skilled labour is required for handling the blocks or which can be erected with considerable speed, and although the surfaces are rendered, rough-cast, painted or polished as the architect may desire, the texture can be left untouched.

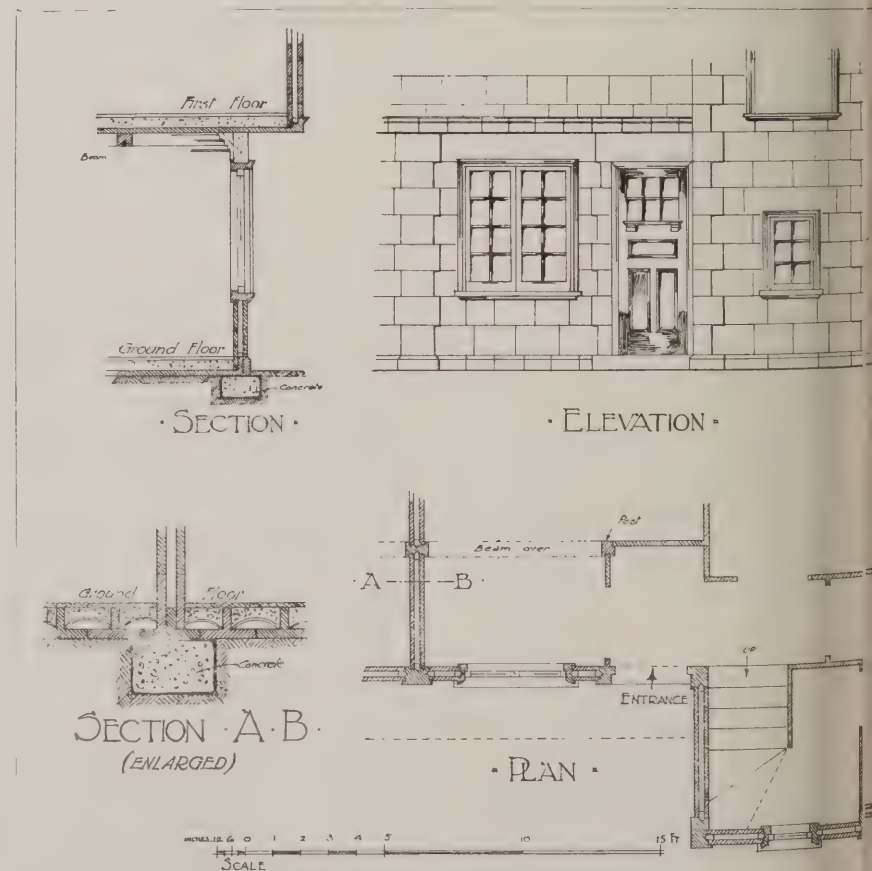
The unit height of each course is 1 in. and the angle and intermediate blocks project $1\frac{1}{4}$ in. beyond the outer face of the external slabs.

At the first floor level a "Woodcrete" wall plate, 3 in. deep and $7\frac{1}{4}$ in. wide, is built all round the house, by which the plane of the angle and intermediate blocks coincides with it. If, however, a wall plate is desired to act also as a ceiling, its width may be increased so that it overhangs the face of the blocks.

"Woodcrete" can be moulded into various forms, and has been made into corrugated sheets, floor tiles, square water pipes with cast lugs for fixing, guttering, tanks (from 50 to 200 gal. capacity), electrical fuse boxes, boards, acid troughs, baths, sinks, and such architectural features as window head and sills, balusters, copings, etc.

On the question of cost, the company has recently quoted the sum of £600 for fifty cottages, as against an estimated £800 each for the same buildings constructed in brick.

As an insulating material for refrigerating plant and works, "Woodcrete" has already been employed with marked success, and a Government mortuary—insulation of which the most stringent requirements have been drawn up—is the latest projects where its insulating properties have been called into requisition.



DETAILS OF "WOODCRETE" CONSTRUCTION.

NEW DEVELOPMENT AND HOUSING.

Totnes.

W. F. Tollet has been appointed for the Totnes Housing Scheme.

Belfast.

St. T.C. has decided to erect 1,500 as soon as possible.

Aberdeen.

Green T.C. has submitted plans to Ministry of Health for the erection of houses.

Galashiels.

Elliot Grieve, architect, Selkirk, has appointed architect of the housing scheme for the borough.

Sheffield.

Thousand five hundred houses are erected by local builders during the year.

Callander.

Stirling Jarvie, architect, Perth, architect of the Scottish Veterans' City, to be erected at Callander.

London.

L.C.C. proposes to erect, at a cost of £500, a block of dwellings with 250 on the Tabard Street slum area.

Islington.

London Guardians are considering Cornwallis Road Workhouse, by interned Germans, cannot be meet the house shortage.

Southgate.

Southgate is to experiment with houses concrete blocks made of material from Council's refuse destructor, and rough side.

Dunmow.

Meet the local need for houses, it is decided to convert the large, empty work-shed at Dunmow, Essex, into working-dwellings.

Wooden Houses.

Different styles of wooden houses, from £550 to £625 each, erected and ready for occupation, have approved by the Ministry of Health.

Epsom.

Twenty-seven houses to be erected by Epsom Urban Council as a first instalment of its housing scheme the cost—of land and road—will average £1,000 per house.

Health Ministry's Appointment.

Ministry has appointed Mr. David Addison, president of the South Wales Engineering Trades Employers' Federation, representative for South Wales and Wiltshire under the new housing Bill.

Brighton.

Housing Committee have decided to erect a number of concrete houses. The cost—work out at £851 7s. per house for building roof and £798 19s. per house for flat roof, accommodation being the same in both instances.

Huddersfield.

Members of the Housing and Town Planning Committee of the Huddersfield Corporation, the Huddersfield Builders' Association, and of the federation of employers in the building trades at Huddersfield have formed an advisory committee to advise the building of houses locally.

Grantham.

Having been held up for some time for various official reasons, the scheme for provision of new dwellings at Grantham is to be proceeded with, the necessary plans having been passed, with

certain amendments, by the Ministry of Health. The inauguration of the scheme will be the erection of sixteen houses.

Croydon.

Croydon B.C. has accepted a tender for building 125 houses on the Woodside estate. The cost will be approximately £1,000 each. It is proposed to let them at 17s. and 20s. a week, the tenants paying rates. It is estimated that the loss will amount to nearly £4,000, equal to a 1d. rate.

Nelson.

Progress is reported in regard to one portion of Nelson's housing scheme. This relates to the thirteen partially-built houses in Sheridan Street, which the Corporation have purchased, and the work of completing which is to be immediately entered upon. The erection of these houses had proceeded as far as the bedroom floor when work was suspended at the commencement of the war.

Smethwick.

A report on the housing needs of Smethwick gives the number of dwellings required as 4,770. To meet the demand for houses there are required 3,790; to replace other dwellings which are unfit for human habitation and cannot be made fit, 280; and to meet anticipated deficiencies arising out of new industrial development and other causes, 700.

Burnley.

After having two plots condemned as too costly, the Burnley Corporation Housing Committee have now obtained a plot which meets with the approval of the Government representatives, and they are asking for sanction to borrow £7,120 for forty-two acres of land on which to build the first lot of houses. It is estimated that 700 altogether are required.

The Housing Subsidy.

For the present the Ministry of Health is unable to furnish particulars of the procedure to govern the payment of the subsidy to builders, announced by Dr. Addison in the House of Commons on November 21. This will depend on the shape which the proposal takes in the course of its passage through Parliament. Regulations will be framed by the Ministry in conjunction with the Treasury when the new Bill becomes law.

Concrete House Experiments in New South Wales.

In connection with the State Housing Scheme in New South Wales, Mr. D. R. Hall, the Minister for Housing, is experimenting with the extended use of concrete. Two concrete test houses at Matraville are being built on different systems. One is to be a "pre-cast house," of which the various parts are moulded and set up in a hard state. The other is to be an example of the "monolithic house."

Chapel-en-le-Frith.

The question of the speeding-up of building operations, and the difficulty of obtaining contracts, was under consideration at a meeting of the Chapel-en-le-Frith R.C. They expressed the opinion that in dealing with the shortage of houses in the district, greater and more economical results could be obtained by the direct employment of local builders and labour and the purchase of the necessary building material by the Council from the sources of supply. They decided to ask the Ministry of Health for powers accordingly.

NEWS ITEMS.

Insch.

Plans are to be drawn for a Memorial Hospital at Insch, Banffshire.

Church as War Memorial.

St. Matthew's Church, Brixton, is to be entirely remodelled as a war memorial.

Stirling.

A new picture theatre is to be erected at Stirling, with tea-rooms, shops, offices, and dwelling-houses.

Selkirk.

Sir Robert Lorimer, A.R.S.A., has designed the war memorial for Selkirk, the cost of the scheme being £3,500.

Manchester.

Manchester Corporation propose to erect new tram sheds in various parts of the city.

Matlock War Memorial.

It has been decided to erect a monument at Matlock as a war memorial for the town.

Tank Corps Memorial.

A memorial is to be erected at Pozières to members of the Tank Corps who fell in the war.

Rest House as War Memorial.

The inhabitants of St. Day (Devonshire) propose to erect a Rest House adjoining the Clock Tower as a war memorial.

Montgomeryshire.

The Montgomeryshire C.C. have purchased from Sir Watkin Williams Wynn and other landowners land valued at £137,000 for small holdings.

Architect's Change of Address.

After December 10 the business address of Mr. Charles J. Blomfield, F.R.I.B.A., will be 13, Ashburn Gardens, S.W.7. Telephone: Western, 1178.

Woolwich War Memorial.

A fund of £50,000 is being raised to build a general hospital as a war memorial. £45,000 has been subscribed, or promised, and the committee now make an appeal for "the last few thousands."

Architectural Association's Annual Dinner.

The date of the Architectural Association's annual dinner has been postponed from December 11 to a later date early in the New Year. Due notification will be given of the amended date.

East Anglian Memorial at Liverpool Street.

The London Society of East Anglians have decided to erect, as a war memorial for East Anglians, and with the sanction of the G.E.R. Co., a commemorative tablet on the south wall of the offices of the company at Liverpool Street. The design, by Mr. Guy Dawber, F.R.I.B.A., is on view at the winter exhibition of the Royal Academy.

Death of Mr. J. D. Crace.

We regret to announce the death of Mr. J. D. Crace, founder and first president of the Institute of British Decorators, at the age of eighty-one. In 1884 Mr. Crace was master of the Painter Stainers' Company, and in 1908 he was the recipient of the Gold Medal of the Institute of British Decorators.

Builders' Trouble Settled.

The Master Builders' Association, having regard to the fact that the Ministry of Labour has intimated that ratification is not necessary, have decided to recommend the members to pay the amount awarded to the operatives, namely, an increase of 2½d. for craftsmen and 3d. for labourers.

This will settle the dispute. The Operatives' Federation have received information of the decision.

East Ham War Memorial.

A memorial is to be erected, in honour of the fallen of East Ham, out of a fund of £1,500, raised by Councillor R. Banks-Martin, an ex-mayor, who has executed the design, and will be the honorary architect. The memorial will be of Portland stone, 29 ft. high, with an 8 ft. base, and will carry four copper plates engraved with the names of the 1,409 East Ham men who fell in the war. It is to be placed at one of the entrances to the Central Park.

Civil Engineers' New Partnership.

Mr. D. M. Watson, B.Sc., Assoc. M.Inst. C.E., has entered into partnership with Messrs. Dodd and Dodd, MM.Inst. C.E., civil and consulting engineers, of County Chambers, Corporation Street, Birmingham. Mr. Watson has both American and English experience of professional work, while Messrs. Dodd and Dodd have had some thirty-five years' of wide and varied experience in the design and construction of civil engineering work both in England and abroad. The name of the new firm is Dodd, Dodd, and Watson.

The Architects of Ireland.

At a meeting of the Council of the Royal Institute of Architects, Ireland, letters were read from the Ministry of Labour in connection with the training of ex-service men in the profession of architecture, and from the Royal Institute of British Architects referring to the delays occurring in Great Britain through the employment of urban officials and other persons on housing schemes, and from the same body conveying a message from His Majesty the King to the architectural profession. The Secretary of the Local Government Board transmitted a copy of the order of the Board on the subject of the employment of architects, which the honorary secretary was directed to forward to the members. The report of the Reconstruction Committee was received and adopted.

Surplus Builders' and Contractors' Plant.

A large amount of surplus builders' and contractors' plant and material is being disposed of by Messrs. Higgs and Hill, Ltd., building contractors, of Crown Works, Lambeth, who are clearing their temporary yards at Harleyford Road, Kennington, S.E., on completion of war contracts. As will be seen from our advertisement page, the sale, which will be conducted on the premises at Kennington on December 16 at 11 a.m., includes about 3,000 yards of portable railway and a great deal of valuable plant and material. Catalogues may be obtained from Messrs. Higgs and Hill, Ltd., at their Kennington yards, or from the auctioneers, Messrs. J. T. Skelding and Co., 48, Gresham Street, Guildhall, E.C.2. The stock may be viewed on December 15 from 9 a.m. to 4 p.m., and on the morning of the sale.

MR. WILLIAM WALCOT'S ETCHINGS AND WATERCOLOURS.

Simultaneously with the issue of the magnificent album of Mr. Walcot's "Architectural Etchings and Watercolours" (£3 3s. net. H. C. Dickens, London and New York; and Technical Journals, Ltd., 27-29, Tothill Street), of which a review will appear next week, an exhibition of the artist's work was opened at the Galleries of the Fine Art Society, 148, New Bond Street.

COMPETITION NEWS.

West Hartlepool.

War Memorial. Assessor, Mr. Ernest Newton, R.A., past president, R.I.B.A. Apply, Mr. Roger D. Lambert, hon. sec. to the War Memorial Committee, Municipal Buildings, West Hartlepool. Dec. 8.

Wood Green.

War memorial. Total inclusive cost, £1,000. Apply, Mr. W. P. Harding, hon. sec. to Wood Green War Memorial Committee, Town Hall, Wood Green, December 31.

Southport.

Secondary School. Premiums, 300, 200, and 100 guineas. Successful competitor will be appointed architect for the work. Assessor, Mr. Maurice E. Webb, F.R.I.B.A. Full particulars and site plan appeared in our issue of Nov. 19, page 629. Apply, Town Clerk, Town Hall, Southport. Jan. 17, 1920.

EWART AND COLLIS, LTD.

On one of our advertising pages in this issue an abridged prospectus is given of the new company which has been formed to acquire and take over as going concerns the well-known businesses of (1) Ewart and Son, Ltd., geyser and hot water apparatus manufacturers, sheet metal workers and engineers, of London and Letchworth, by the acquisition of the share capital of that company; and (2) J. Collis and Sons, Ltd., general engineers, of London and Sunbury-on-Thames.

Messrs. Ewart and Son, Ltd., are the owners of numerous patents relating to the manufacture of geysers and water heaters. They are also large manufacturers of ventilators and smoke curing appliances, of which their "Victoria Ventilator" and "Empress Smoke Cure" are well known to the public. They also carry on a large business in the manufacture of metal parts for the motor trade. The demand for the firm's products is insistent, and, at the present time, considerably in excess of the supply. The firm owns a spacious modern one-floor engineering factory at Letchworth which is fitted up with the most up-to-date machinery. The firm is also the owner of a lease of very spacious showrooms and factory in Euston Road, London.

The Directors have decided to continue the business of Ewart and Son, Ltd., under the old name as a separate entity, but all profits earned in that business will belong to the company. The firm of J. Collis and Sons, Ltd., which was incorporated as a limited company in August, 1918, with a nominal capital of £120,000, took over the business originally founded in 1867 by the late Mr. John Collis, and is recognised in the engineering trade as one of the leading firms engaged in the specialities manufactured by them, the firm's manufactures being in use in all parts of the world. J. Collis and Sons, Ltd., are the owners of numerous valuable and well-known patents and licences for the manufacture of Cowan trucks, box-board printing machines, nailing machines, paper-laying machines, electrotyping and stereotyping machines. It is anticipated by the combination of the businesses that considerable economies will be effected, not only in the exchange of manufactured parts which are now purchased from outside sources, but also in the office and sales departments by reduction of staff and other outgoings in relation thereto.

WEEKLY HOUSING REPORT.

The return issued weekly by the Ministry of Health states:

New schemes submitted to the Ministry during the week ended November 22 numbered 310, bringing the total number of schemes submitted by local authorities and public utility societies to 6,618, comprising about 54,500 acres. The schemes approved now number 2,569, comprising 25,009 acres. The majority of the schemes are promoted by rural district councils and relate to sites averaging about one and three-quarter acres. Schemes representing some 2,777 houses have been submitted during the week. The total number of houses in schemes submitted is now upwards of 64,300, in schemes approved 50,386. There have now been approved for 18,000 houses. Some of the local authorities have experienced difficulty in obtaining the services of qualified quantity surveyors for their housing schemes. The Ministry of Health have accordingly been in communication with the Surveyors' Institution and the Association of Quantity Surveyors, who have furnished lists of members, and these lists have been circulated to the local authorities.

Details of the schemes of local authorities dealt with during the week are as follows:

Building Sites.

Schemes Submitted.—The number received from 102 local authorities was 210, comprising about 1,200 acres, and bringing the total number of schemes promoted by local authorities to 6,539, covering approximately 52,000 acres.

Schemes Approved.—The number of schemes approved was 162, bringing the total number approved to 2,544, covering about 24,400 acres.

Lay-outs.

Schemes Submitted.—116 schemes submitted by fifty-three local authorities, bringing the total number of schemes submitted to 1,563.

Schemes Approved.—44 schemes, promoted by 31 local authorities, were approved, bringing the total number of schemes approved to 876.

House Plans.

Schemes Submitted.—81 full scale and one part scheme were submitted. Information as to the number of houses represented has not been given in some cases. The total number of houses represented in the remaining schemes is 1,563. The total number of schemes submitted represent over 6,000 houses.

Schemes Approved.—33 full scale and one part scheme representing 1,563 houses were approved. The total number of schemes approved represent 1,563 houses.

COMING EVENTS.

FRIDAY, DECEMBER 5.

Architects' and Surveyors' Association Professional Union. Business meeting, Caxton Hall, Westminster. The Executive Committee extend an invitation to assistants, whether members or not, 7 p.m.

MONDAY, DECEMBER 8.

University of London, Bartlett School of Architecture.—Mr. H. D. Ebbels, B.A., of Philadelphia, will deliver a lecture entitled "American Architecture During the Seventeenth and Eighteenth Centuries," with lantern illustrations. Charge for admission.

Architects' Journal
Friday, Dec. 10, 1919

The Architects' Journal
Volume L. No. 1301

THE ARCHITECTS' JOURNAL

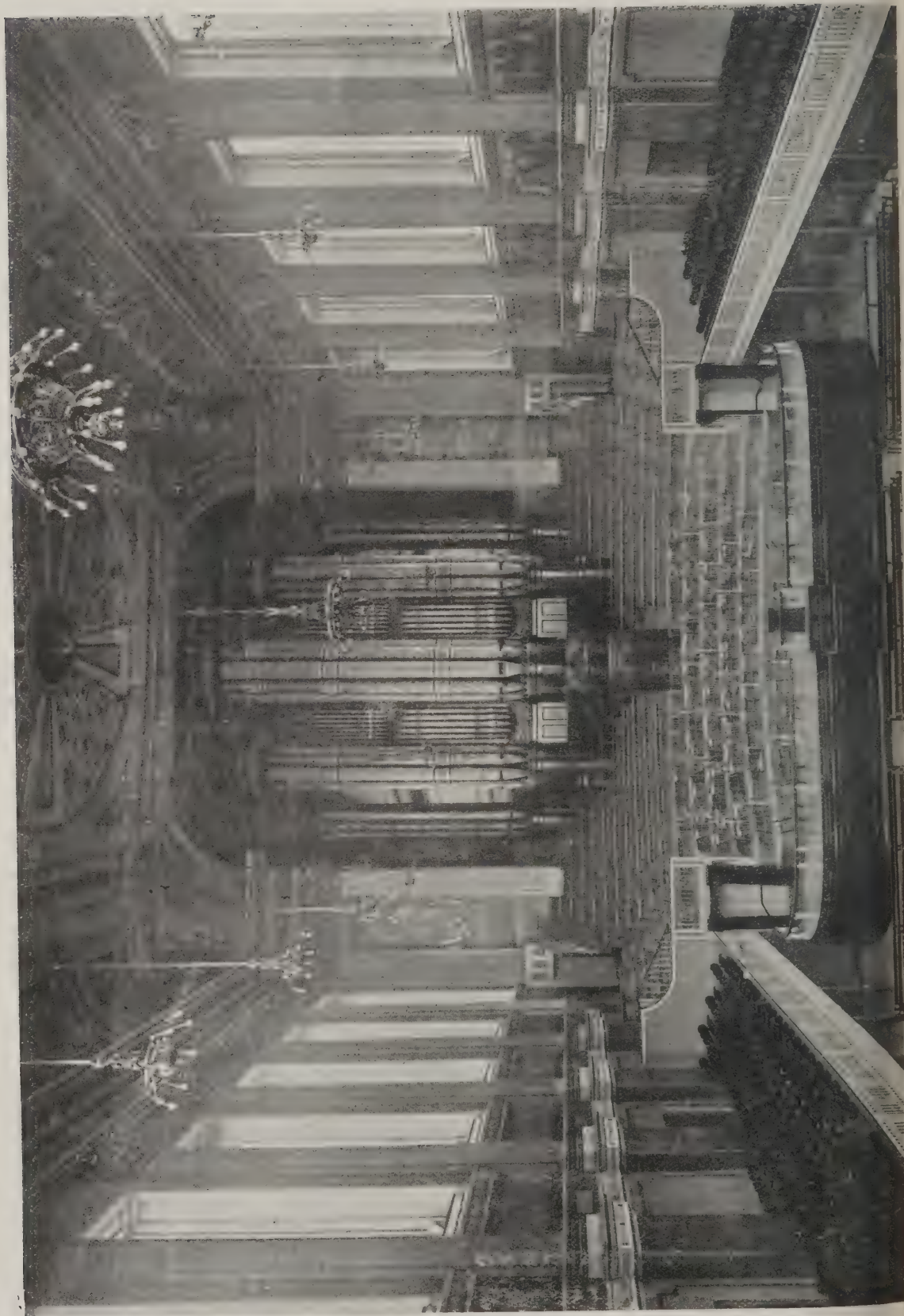
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ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS.

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Reconstruction, Locomotion, and Labour

BUT reconstruction the prevailing thought at the present moment is that it is making very slow progress. For us, reconstruction means building, indeed, even if the word be taken in its literal sense a condition precedent to all other forms of reconstruction. If, then, building (in the concrete) is of such importance to reconstruction as we believe it to be, is it not now in full blast? Why, a twelve-month and more after the cessation of hostilities, is it at a standstill, although the demand for it becomes daily more urgent? Ask that question of the builder, and the reply, in nine instances out of ten, will be, "Because the building industry has not been freed from the fetters fastened on it nominally during the war, and actually still allowed to restrict its movements, vex its spirit, and gall its thews." Scarcity of materials and of labour has been so perpetually alleged as to have become a mere gramophone tune in which few persons have to-day any very deep belief. Scarcity, the sceptic is fond of reminding us, may be either natural or artificial; and thereupon follow dark hints of rings and combines among employers and of unholy compacts between employers and employees employed to keep up prices. Mr. Bonar Law, in asking a question in the House of Commons the other day, insinuated that profiteering by builders had retarded the housing movement, and he added that the troubles were contributing to the same effect. It is wonderful in the extreme if an immensely large number of such as building were entirely free from all taint of the profiteering that, in some form or other, infests every field of activity. Unquestionably the profiteer is with us; but the Government is giving him just the opportunity of his life. By setting up control as the only effectual safeguard against speculation and overcharging, and has fostered the hole-and-conspiracies that could no more exist in an atmosphere of free competition than anaerobic microbes can exist in sunshine and fresh air.

Yet the opponents of State control must be ardently protesting that the present exhibition of it may go on a long time longer; for everybody is becoming so thoroughly disgusted by it as to detest the very phrase, and to shudder with horror from the bare notion of its permanency in any direction. What has the State done for the vital necessities—food, coal, transport, housing? A decidedly awkward question; and the answer to it is more awkward still. Milk at a shilling a gallon is found too dear for children but cheap enough for adults, and bacon is stored until it becomes unfit for consumption because the price of coal is arbitrarily raised by six shillings a ton, to be as arbitrarily lowered by ten shillings, and the Controller was so notoriously well versed in magic as to be able to perform these conjuring tricks without exciting our special wonder or incurring our special indignation; transport is in the most chaotic condition ever reached; and housing has got into such a state that the present and the former Minister in

charge of it are, figuratively speaking, throwing bricks at each other. It is a pity that neither Minister has discovered a more edifying use for bricks.

Transport is the service on which everything else depends, and it is utterly inadequate because the Government has not only made it so, but has kept it so. There are very few and faint signs of recovery from the abnormal condition into which it was thrown when the State took it over. Trains are as infrequent, fares and freightage are as exorbitant, and rolling stock is in a worse state of disrepair. Obviously there is an intimate relationship between transport and building. Inadequate shipping both restricts the import and export of supplies and reduces the man-power available for building by attracting men to better-paid work in the ship-yards. Then, for the conveyance of materials overland, the supply of trucks is utterly insufficient. Private owners have expressed their willingness to repair old trucks and provide new ones, if only their rights in those trucks over a reasonable period of time were assured; but this enterprise is damped by the reluctance of the State to offer equitable guarantees as to the future of the trucks.

A further complication of the transport question is the serious menace to the heavy motor traffic which, until the canal system and the air service become practical propositions, will remain the only alternative to railway traction. Heavy motor vehicles, including lorries whose loads consist mainly of building materials, are threatened with heavy taxation—whether to restrict their competition against the railways or to make them pay for the repair of the roads which Government "extraordinary traffic" has worn out is a fair question which is not likely to be squarely met with a straightforward answer. In dealing with this subject, builders should press home their old demand to be relieved of the excessive burden imposed on them in the form of charges for "extraordinary traffic."

There are, of course, two sides to this question. It is iniquitous that a local authority should be burdened with the cost of maintaining in repair a section of a trunk road which is used chiefly by strangers who do not pay a farthing towards upkeep; and, one evil generating another, it is by no means surprising to see the injured and irritated local authority pounce like a hawk on the luckless contractor. Their charges for the damage he does in conveying materials that, in most instances, are to be used for the benefit of the community that exacts the fine, are commonly quite extortionate, besides being irrational if not paradoxical. It is of little use to resist them. Local treatment being ineffectual, a radical cure must be sought. War-time exigencies made it plain that the State must take charge of the highways, which in origin and in current usage are military roads; but what of the by-ways? For it is mainly these that the contractor cuts up, partly because, being badly formed, they are more susceptible to that process, and partly because most of his work lies fieldwards, whither the by-ways lead. Now is the time to inquire very closely

into this matter: for plainly it is of the utmost importance that transport legislation should tend to facilitate trade, not to penalise it.

What may be called without much exaggeration the curse of control has had the same sinister effect on Labour that it has had on materials and on transport. It is largely responsible for Labour unrest, by making it the spoilt child of the State. One of our correspondents, an eminent contractor, who is himself representative of the highest type of humane and considerate employer, aptly states the case in the form of a parable. "Did you ever know," he asks, "a family in which, while the parents were of firm fibre, there was an indulgent aunt to whom the children could always turn in full assurance of getting the sweets that had been more sensibly forbidden them? What the father and mother had withheld in the interests of health and discipline, the indulgent aunt had given for the sake of peace and quiet." It would be impossible to hit off the situation more aptly. It cannot be denied that Labour has been weakly and unwisely coddled to keep it quiet, and that greed, peevishness, indolence, and insolence are the effects of too much Indulgent Aunt. Employers are thoroughly justified in asking the aunt to withdraw from her alleged control. But the request comes with much more force from a composite Consultative Board, in which not only employers, but employees also, as well as architects and other professional men, ask point-blank that all Government control should be withdrawn from

the industry which they so fully represent. Government has not hesitated to claim credit for rapidity, completeness with which demobilised men have been absorbed into their various trades; but the fact is this condition has been reached mainly through the efforts of employers, and almost in spite of the Ministry of Labour, which, while it has too often played the part of the Indulgent Aunt, has, on at least one memorable occasion, revealed a sullen temper that bodes ill for industrial peace. "What," asks the correspondent again, "is your opinion as to the relations between employer and employed? My own feeling is," he says, "that we have made a great advance, and that but for the Ministry of Labour we should have gone further. Certainly it is a hard saying, that Labour would be right but for the Labour Ministry, yet it is not palpably so. That the constant intervention of the Indulgent Aunt unsettles the mind and moral of the worker, who takes it hardly worth while to keep on good terms with his employer while "that incomparable she" is at hand to distribute sugar-plums "for the sake of peace and quiet." The building industry is suffering more acutely than other from a surfeit of State interference, which has outlived the necessity for it, and, as someone has said with more force than elegance, of an expiring candle "Having ceased to be luminous, it goes on stinking the socket." Not till control ceases will reconstruction go full speed ahead. The next move is obviously to let the Government.

Notes and Comments

"To All Members of the British Building Industry."

WE very willingly give currency to the appeal "to all members of the British Building Industry," which has been issued by the Building Industries Consultative Board from the offices of the R.I.B.A. In effect, it is an incitement to strenuous work. We are "to make a great united effort to win our share of the benefits of Peace." Excellent, though trite. Everybody is already convinced of the need for strenuous concerted effort to overtake the arrears of civil building work that have accumulated during five years of complete cessation, but it had become necessary to restate the case authoritatively, and to enforce it with a demand for complete release from Government control. This combination of appeal and demand could have come with equal force from no less eclectic a body than that composed (as the Board is) of leading representatives of the organised architects, surveyors, building trades employers, and operatives. The Council for the Building Industry is much less comprehensive, in spite of its more numerous membership; and this Consultative Board should not be dissolved when it has achieved its immediate object of regaining liberty for the building industry. There is much other useful work which it is peculiarly well qualified to perform; and, considering the representative character of its constitution, it may easily become the nucleus of a permanent institution of the highest value to the profession and industry of building, mainly by giving it the unity that is its chief need for the full and free development of its material and psychological values.

Ballot and By-law.

In suspending for twelve months the by-laws relating to balloting, the Council of the Royal Institute has taken a course which, though extremists may cavil at it as unconstitutional, is, in our opinion, as commendable as it is courageous. Exceptional circumstances demand special treatment, and the Institute is as fully justified as the Ministry of Health in suspending by-laws that are comparable only in the one respect of being ill adapted to the changed conditions effected by the war. Sticklers for the fulfilment of every jot and tittle of the law should not be heedlessly compared with Shylock, insistent on

getting his pound of flesh, but they certainly make it difficult to confute those indiscriminating hotheads who do not scruple to hustle them—quite undeservedly—into the same infamous category. Members of the Institute made such an unfortunate use of the ballot as to turn it to the disadvantage of men who had deserved well not only of the Institute, but of their country. This is a scandalous abuse of the ballot, and the Council of the Institute, and the members of the Institute as a whole, in deciding to place so dangerous a weapon on a shelf high out of the reach of the froward, have vindicated the humanity of the profession, to say nothing of upholding its reputation for chivalry. By-laws suspended by-laws will be "none the worse for a little hanging"; and if they do not survive it, so much the better, for that blackballing incident revealed in plain criminal proclivities of which they had not been previously suspected. When the right to ballot is again to be revived, it should be deprived of its maleficent power to blackball, with which it ought never to have been invested. The power "to pill" candidates may be proper to an exclusive club, but it is ridiculous in the case of a professional organisation, and its suspension by the decisive majority of forty-one to eight is a gratifying proof that the Institute has a heart as well as a head, and has the strength of mind to break a custom that is dishonoured in the breach than in the observance.

A Question of Tone.

Of course the result of the voting on the question of suspending the by-laws as to balloting was a foregone conclusion, but what clinched the matter was the splendid letter from the President, Mr. John W. Simpson, whom ill-health kept away from a meeting the geniality and tact would have made less acrimonious. Not that the gentleman in the chair was in the least degree lacking in the gentle art of handling a meeting. He is an old Parliamentary hand, well acquainted with all the resources of his office, and well able to keep any meeting that is at all disposed to be refractory. But Mr. Simpson's petition is always greeted before he asks it; there is something magnetic and persuasive in his mere presence; failing which document he sent to be read at the meeting state

against the ballot so cogently, and yet with such consideration for the feelings of those who might be misfortune to hold opposite views, that lately after it was read a unanimous vote seemed the only outcome possible. As the discussion developed, however, the magic suffered some trifling loss of potency, and the speakers for the eight who eventually suffered the importuning, in some few instances, a bitterness that was rather from an exasperated sense of inevitable overwhelming defeat than from a passion for their cause. Seldom does discussion at the R.I.B.A. meetings come so perilously near loss of tone and temper. The slight lapse from the customary serene dignity is the more regrettable because it was coincident with a sharp division of opinion between London and provincial members. There was no commotion of waves, but only a slight rippling of a surface which would have looked prettier if it had remained calm. It gave one the impression—doubtless quite correct—that there were grounds of dissension in London and the provinces. In reality there are none that are at all substantial. And here we have stronger reasons to deplore the illness of the President. It had been his intention to visit in succession the provincial societies as possible, with the object of bringing the members in friendly and informal conference.

Ministry of Health, the L.C.C., and Wooden Houses. While the Ministry of Health has expressed its willingness to sanction wooden houses, the housing committee of the London County Council has reported against them. The alleged inconsistency has been the subject of much sarcasm, most of it entirely beside the mark. If the Ministry is yielding a reluctant consent to importation, it has an excuse that would by no means satisfy the L.C.C. To legislate for the rural districts, where houses stand widely asunder in the fields, or in small groups in the villages, is obviously a very different thing from assuming the moral responsibility for putting thousands of wooden houses round about a great city, or in the midst thereof. A policy that might be defensible, and even commendable, for the rural districts might be positively criminal if applied to urban areas. To say, then, that the Ministry and the L.C.C. are in contradiction in this respect is to pronounce a very final judgment.

The New Housing Bill. The Housing (Additional Powers) Bill, of which a Bill was issued last Friday, it is provided that the money to be made for the State subsidy of £150 for each house of an approved type completed within twelve months shall not exceed £15,000,000—a sum which seen at a glance to be utterly inadequate to the need in view. Unhappily, it is proposed to perpetuate the vicious principle of control, which, however, is to be exercised in a modified way. Local authorities are to be invested with the power, or burdened with the onus, of restricting general building operations "Where the provision of dwelling accommodation is likely to be delayed by a deficiency of labour or material arising out of their employment in other work and buildings the construction of which is of greater public importance than the erection of houses." This clause confirms the fear that the expression, "essential building," used by Dr. Addison in the House of Commons on November 22, would be made to cover all cases of building except dwelling-houses. It even includes alterations and repairs. On the arbitrary action of a local authority, any kind of building operation, with the one exception, may be stopped. It is a dangerous power with which to entrust a local authority, who have been known to abuse such authorities as those that it is now proposed to place in their discretion. True, there is to be an appeal to the Ministry of Health, but appeals are costly and uncertain. Moreover, the Ministry of Health, in

setting itself up as the final court, is assuming an arbitrary authority that is alien to the English tradition of free institutions. There will be, however, an appeal of sorts; for the fines to be inflicted on the recalcitrant builder—up to £100 on summary conviction, and an additional £50 for each day during which the offence continues—will no doubt be determined after trial by a properly constituted legal tribunal, who may give the victim the option of three months' imprisonment. The Bill schedules also the local bonds scheme (set forth in a White Paper issued last week), by which the Goschen Committee proposes the issue by certain local authorities of five-and-a-half-per-cent. local bonds on short-term security to defray the cost of housing schemes; the hope being expressed that by this means "the particular classes which will most benefit by the whole housing scheme can be induced to subscribe at least some portion of the necessary funds."

The First Standing Industrial Court.

The names of the first members of the first Industrial Court constituted under the new Act were published last Saturday, and it is gratifying to find that they include so distinguished a representative of the building industry as Mr. Ernest J. Brown. His description in the official list as "Director and past-president of the London Master Builders' Association and past-president of the Institute of Builders" will not convey to the general public an adequate idea of Mr. Ernest Brown's enormous services to the building industry. For many years past he has been about the most prominent figure in the building industry, and his first-hand knowledge of its every phase must have furnished him with a most complete equipment for the important appointment which has now been conferred upon him. The functions of the Court in the settlement of disputes will be very similar to those exercised by the Conciliation Boards established by the Master Builders' Federation, of which, as mentioned above, Mr. Brown is a past-president.

Paper Houses.

It seems that there may be two meanings to the expression "paper houses." House walls may be actually made of paper, as well as planned or projected on it. A Mr. F. Shapley, of Bristol, has, it is said, submitted to the Premier plans for houses of which the walls are constructed of inner and outer sheets of papier-mâché, the void between being filled with earth previously prepared by being baked to free it from all vegetable and animal matter. Tubes of papier-mâché, placed transversely between the panels at suitable intervals to act as stiffeners, and iron columns at the angles carry the roof. It is claimed that these houses can be constructed with great rapidity, and that the cost is but £280 each. The former statement may be true; the latter we take leave to doubt. In any house that is made fit to live in, the sanitary arrangements and the flues would cost more than that. Papier-mâché houses are, of course, familiar enough in China and Japan.

"Architectural Review" Peace Commemoration Number

The December issue of "The Architectural Review," which is now on sale, is a Special Peace Commemoration Number. It contains extremely interesting contributions by Viscount Grey, Lord Robert Cecil, Sir Aston Webb, P.R.A., Mr. John W. Simpson, P.R.I.B.A., Mr. Ernest Newton, F.R.I.B.A., Major H. Barnes, M.P., F.R.I.B.A., Major David Davies, M.P., Mr. Patrick Abercrombie, M.A., and others. Its copious illustrations include six fine coloured plates, and the design for the cover has been specially drawn by Mr. Frank Brangwyn, R.A., in his incomparably virile style. This issue is a magnificent souvenir of a great occasion, and as it is sure to run out of print immediately and cannot be reprinted copies (price 5s.) should be secured without delay.

Architectural Causerie

DURING my comings and goings in the streets of London I meet many of my architectural friends, and enjoy the benefit of their views on things in general. Sometimes it is my privilege to visit them at their offices, and on such occasions we discuss designs in the making or we exchange views on this or that form of composition, talk of the merits of materials newly advertised, or else we propound astonishing theories of a revolutionary character. One day I visit my lord at his town house, the next I am closeted with a property owner, with whom I lunch at the City Carlton, and again I am the guest of a group of architects who talk of design ad nauseum. All architects enjoy privileges of a similar nature, varied with country excursions to superintend the erection of their buildings.

On Wednesday last, while hastening through Bloomsbury Square, I had the good fortune to meet Mr. Stanley Hamp, who put forward the excellent idea of forming a new coterie of architects in practice, who would be willing to meet at stated intervals in order to exchange views, as well as to discuss problems in hand. This idea impressed me, and I feel sure it will meet with general approval, especially among the younger men. To my own knowledge several well-known architects have already met to form the nucleus of such a gathering, and it is possible that the near future will see the rise of a series of "architects' clubs," all holding allegiance to the Institute, but determined among themselves to spread the dictums of good taste. While on the subject of the intimate doings of architects, I must speak of London offices, and the impression they leave on my mind. The average architect's office is an inspiring place; it is usually furnished with taste, there are some good pieces of furniture in the inner sanctum, a fine array of authoritative books, a nice smell of tobacco, and a distinct air of tidiness foreign to the workshop of the lawyer.

There are, however, unpleasant offices, generally in modern buildings, but that is not the fault of the architect occupier, who is forced by circumstances to pitch where he can. Most of my friends enjoy the glamour of old surroundings. They are snugly housed within the walls of Gray's Inn, or Verulam Buildings; some have chambers in the Temple and work in rooms panelled by Wren's carpenters; others know the delights of Bedford Square, where they are kept young by the proximity of the Architectural Association, and a few prefer the shadow of the Abbey. We architects are not badly housed as things go. We may lack the vast accommodation of the New York office with its rows of desks, and regiments of assistants, not forgetting the black at the door who books everyone in, and checks the outward mails, but we have the leisure to superintend our designs, and, after all, if buildings of the first magnitude do not come our way, we are saved from the dangers of megalomania. Perhaps this is the reason the best English work shows such careful detail.

Mr. Halsey Ricardo, who, by the way, occupies No. 13, Bedford Square, informed me at an Institute meeting that this house was built by Thomas Leverton as a private residence for his own use, in fact the architect died there. Mr. Ricardo went on to say that the variety of the house plans in this square showed a remarkable grasp of academic planning, and proved Leverton to have been a very able man. It is more than fortunate that the houses on the west side of the square are being altered by Mr. Robert Atkinson, who understands the character of Leverton's work, and has pre-

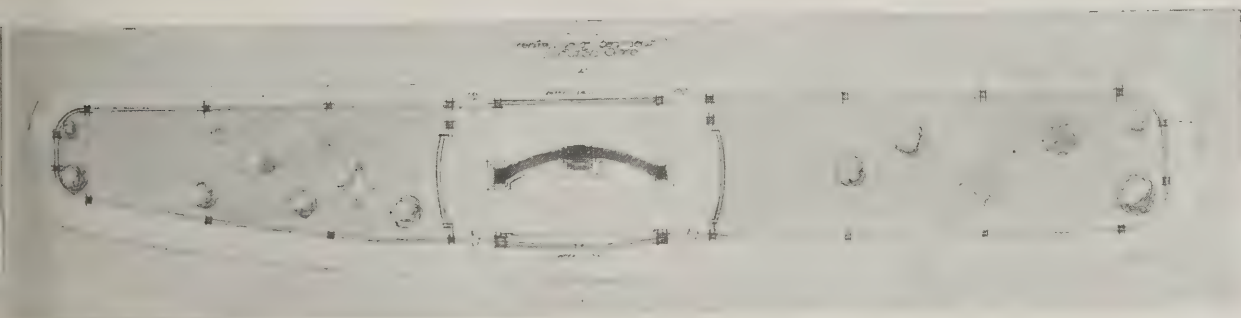
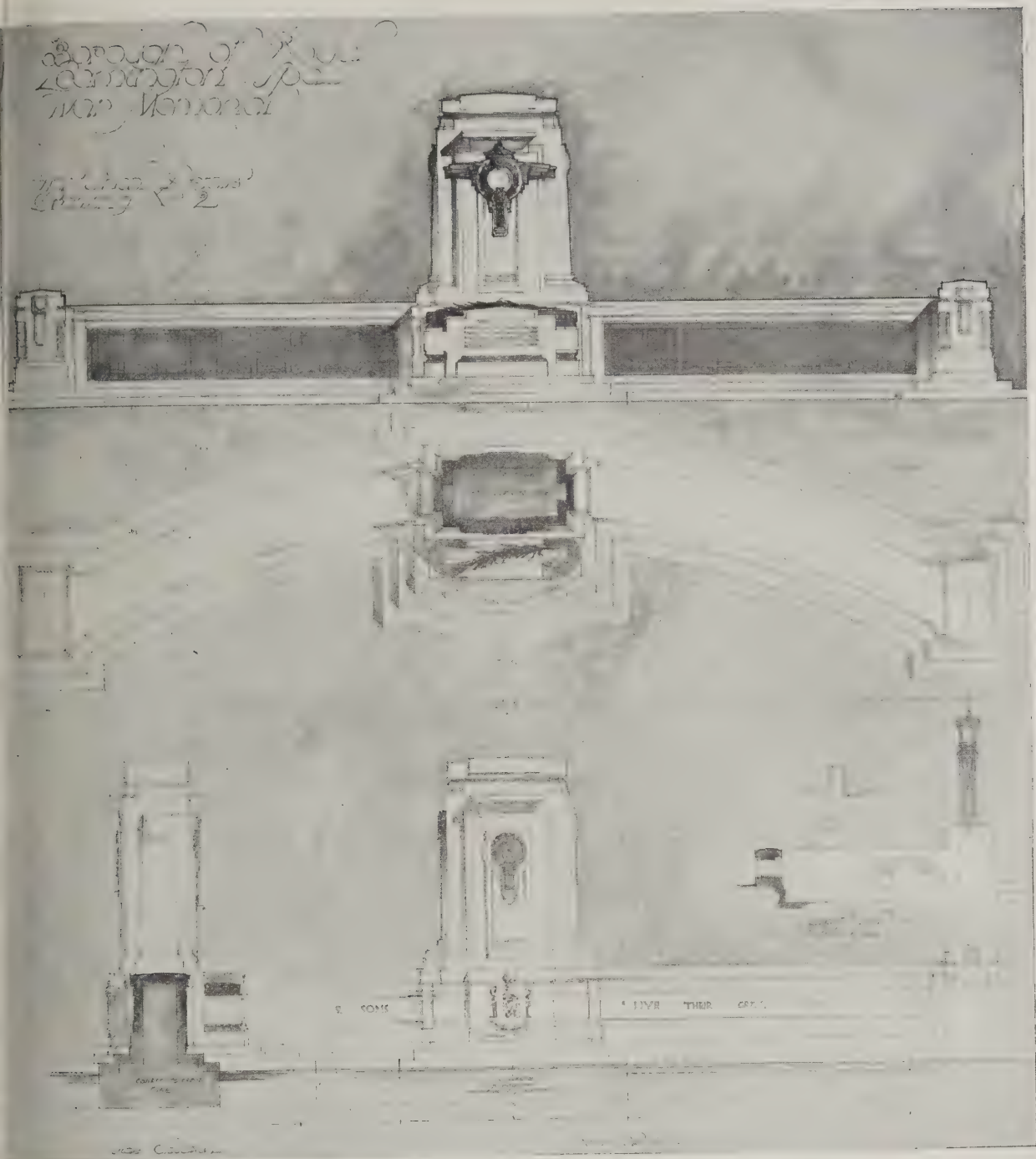
served the interior features. What a pity it was that certain Duchess of Bedford, years ago, discovered the merits of some of Leverton's fireplaces, perhaps on account of the rumour that Flaxman had executed sculptured figures; the dangerous enthusiasm of the lady caused the best specimens to be removed to Woburn. It is astonishing what a lot of things architects undertake in addition to the ordinary routine practice. Many of my friends devote hours of spare time to the meetings of public-spirited societies, and chance upon them at No. 8 Buckingham Street under the chairmanship of Mr. Thackeray Turner. Mr. W. and Mr. Ricardo invariably attend the meetings of the Civic Arts Association, and if statistics could be piled showing the number of hours put in by members of the profession for the good of the cause we should be astonished.

The scheme for the amalgamation of the recognized architectural schools of London under the direction of the Royal Academy is fast maturing, and some interesting developments are promised. Mr. Maurice Webb, a talented son of Sir Aston, is working without rest to bring this important matter to a successful issue. Architectural education in these days demands co-operation; there are so many young architects to be trained during the next few years, and a good deal of cumbersome machinery needs scrapping. Professor Reilly, returned from his travels abroad, and the Liverpool School of Architecture is now getting into its new stride; with the especial knowledge of what is likely to be done to raise English architecture to a higher plane, my friends are confident of future developments; in the coming years will need the untiring efforts of a person capable of using a pair of dividers.

A few days since I was discussing the standardization of cottages and small houses, particularly the details, with a well-known architect, who desired his name to be kept secret; his remarks were pithy and illuminating. On the subject of the picturesque he waxed eloquent, calling on the gods for thunder, his own tastes reflected current American opinion, namely, "that picturesque confusion belongs to the mediæval order of things, and that only a return to formality would result in improvement." There is a lot to be said in favour of the formal policy, provided the groups of houses are varied, and open spaces, as squares, alternate at intervals with terraces; for successful architecture conceived in the grand style, whether it consist of cottages or middle-class flats, to be really expressive must be formal. At the time of my chat I ventured the following impromptu:

A resourceful London architect
Quickly rose to fame,
Designing tasteful cottages,
Everyone the same.
Note the graceful consoles
To each winsome door,
Stacks to every group of two,
Bays to every four

I hear that the scheme for making Bloomsbury the chief quarter of the University of London is practically settled. This means the completion of Sir Burnet's fine plan near the British Museum, and the ultimate development of the streets and squares in accordance with the purposes of University buildings. The advantages to architectural students are obvious, for the British Museum holds many treasures. In the future we can look forward to some changes in the appointment of external examiners to some of the



Plan of Lay-out

ROYAL LEAMINGTON SPA WAR MEMORIAL COMPETITION: WINNING DESIGN.
T. LLEWELYN DANIEL, A.R.I.B.A., M.S.A., AND RAYMOND C. ARNOLD, A.R.I.B.A., ARCHITECTS.

architectural schools. There is, so I am told, sort of general post, and many of the existing ers are to change places. This is surely a move ight direction—one that should bring consider- round benefits in its train.

estern discipline of the last five years has swept many old illusions. Architecture is at last in a y of being understood of the public; not a day out I see columns in the public press devoted to ousing problem, the value of wooden buildings, onomy of pisé de terre, and a vehement protest against the continuation of obsolescent by-laws persist to the annoyance of His Majesty's dutiful all of which I note with the curiosity of an un- icial traveller, for I am determined to bag float- as and turn them to advantage. It is remarkable

to hear architects to-day complaining of being over- worked, yet all my friends tell me of their trials, and this while the prices of material and labour are still high. One architect whom I questioned informed me that his clients were determined to begin extensive operations early next spring, come what might. At my elbow I have an astonishing list of buildings for which drawings and specifications have been prepared by my friends, mostly, let it be known, structures of the office and warehouse class, and at least one building of vast size with a lofty tower. And so I reluctantly bring this week's gossip to an end, not because I have exhausted my stock of material, for there is much I would like to say of my doings this last week, but like most writers a new idea has inspired me, and I must travel to my country seat to determine the Causerie for the next issue.

AERO.

Freedom or Control for Building?

By MAJOR H. BARNES, M.P., F.R.I.B.A.

intimation given by the Minister of Health that the new Housing Bill will place a limitation on luxury building has aroused considerable en- sion, and, from some quarters, a storm of pro- This is not surprising, and is but further indica- of the complexity and far-reaching effects of the which the Government has put its hand. It has nken perhaps the greatest building operation in t; on the one hand the erection within the next urs of anything from 500,000 to 1,000,000 houses, the other the clearance of the existing slum. This task involves an unprecedented demand the component parts of building enterprise. icts are wanted, surveyors are wanted, builders nted; material is necessary, labour most necessary

The Common Pool.

us look upon all these factors as existing in a n pool upon which all building demands have to le. What are these demands? First of all an us amount of repair work has to be done. Sus- during the war, buildings have become shabby apitated, and their owners fairly flush of money cious to make them decent and habitable. The f repairs affords profitable employment for the t, and it is not unnatural that at the present t sixty per cent. of the building trade is engaged work. Then there are the arrears in construc- residential requirements for the new rich, com- and industrial buildings to meet the require- of business and enterprise breaking now like a pon the business world, evidenced in the columns y paper by the appeals for capital. Many build- r public purposes are also long overdue, particu- those required for educational work. In normal an there be any doubt that to supply these needs occupy to the full all the resources of the build- de and that little, if any, attention would be oy it to the supply of working-class houses? In times these are left to the speculative builder, aws for his material and labour upon the com- pol, after it has been drained to meet the require- already set forth. The material and labour avail- r him are the residue, the cuttings and trimmings r from the joint.

Differing Interests.

it is clear that we are now up against a clash ring interests. In the forest pool it is only after nger animals have drunk that the lesser ones ke their fill, and in any conflict the weaker is aside. This would happen here. The success- hitect with his practice in the higher classes of g, the builder and contractor with capital and

resource, are anxious to proceed with the commissions and the contracts which lie open to them. They are crowding to the pool, but they find the way blocked. The housing of the working classes, which formerly depended on the prospect of profit open to the specu- lative builder, has now behind it the fearsome weight of all the power that can be employed by a powerful Government in carrying out its political pledges. Materials, it is said, are held up for housing purposes. Labour is insufficient for all the operations required, and in consequence great building works that might be proceeded with cannot go on. That is the situation. These are the issues. Is housing to take precedence? Is housing to be hampered and delayed by the progress of other building works, or can the two go on side by side?

Free Competition.

One school, impatient of delays and restrictions, calls for the release of all Government control. Let the local authorities, they say, come into the market like everyone else and make the best bargain they can. Let materials be sold as and when the manufacturer likes. Let labour go where it can obtain the best terms. For a time there may be soaring prices and exorbitant wages—it all will right itself. The profits that will be made will attract to the industry other men, other materials—in time prices will fall, the demand will be supplied, all will be well. Is that quite so sure? This is competition with a vengeance, the survival of the fittest, the weakest going to the wall. And who will be the weakest in such a competition? Where will the power of the purse make itself felt first? What jobs will go on and which will be hung up? Is it unlikely that buildings which are erected for purposes of profit will offer inducements to the vendors of material and to labour, which cannot be offered by those who are putting up buildings for purposes of use? Already one hears that industrial firms anxious to deplete themselves of the profits they have gained during the war, are offering terms to labour and prices for material which are leaving housing schemes derelict and abandoned. Is this to continue? Is housing to wait till other demands have been satisfied? Is it to be treated as a means of employment when other building is slack? There is something to be said for that. The main thing is to clear our minds and come to some conclusion.

Control.

Another school would handle housing as a war problem and employ all the means that were required to win the war to secure the erection of working-class dwellings. Stop, they say, all other buildings, com- mandeer all materials, take over every builder's yard and plant, and get on with the housing. That would be

a bold course, and there is much to be said for it. How it could be carried out is not quite so clear. There is much material which is not required for housing, there is much plant that could not be employed. The effect upon industrial and commercial life of delaying for five years any considerable extension of their facilities is a serious matter to contemplate; yet how otherwise is housing to be completed?

Housing Pushed Aside.

Is this to happen? There are growing signs that if the urge upon the Government was removed this might happen. Local authorities are reluctant to proceed. The unknown extent of the burden daunts them. The dual control of finance makes them suspicious. It is perhaps not too much to say that if the Government abandoned their housing programme the outcry would not come from the local authorities. Private interests are against it. A swarm of land owners, land developers, solicitors who find the business of financing the speculative builder a lucrative one, house agents, all view, if not with positive enmity, with dread, the treatment of housing as a public enterprise. The owners of existing property have no use for the schemes; they can hardly be expected to appreciate a production which will tend to reduce the harvest they might expect to reap if the shadow of the Rent Restriction Act were removed. The great financial interests are against it. They see no good in a proposal to expend money upon which an economic return cannot be obtained. It is a further subsidy to the working classes. They have free education; are they to have free housing? All these elements are at work to push into the background the great housing programme which formed the most attractive item of the recent election. All these forces are

playing upon the Government. Will it yield to them? Dare it yield to them? What is the solution of this difficulty? I see none as long as each interest thinks only of itself. There must be a proper appreciation of all that is at stake. Those who have the knowledge and the experience required must apply themselves to the solution without regard to their own immediate interests and with a full appreciation of the real importance of the issue at stake. It is clear that we cannot allow the new standard set up for housing to be lowered. Probably one of the greatest results of the new spirit will be the improvement in the environment of the worker that will come about as a result of a loyal and effective administration of the Housing Act. Between the claims of industry and those of housing we must effect a just settlement, and it is this settlement that those who control and direct the professional trade and labour organisations should direct themselves.

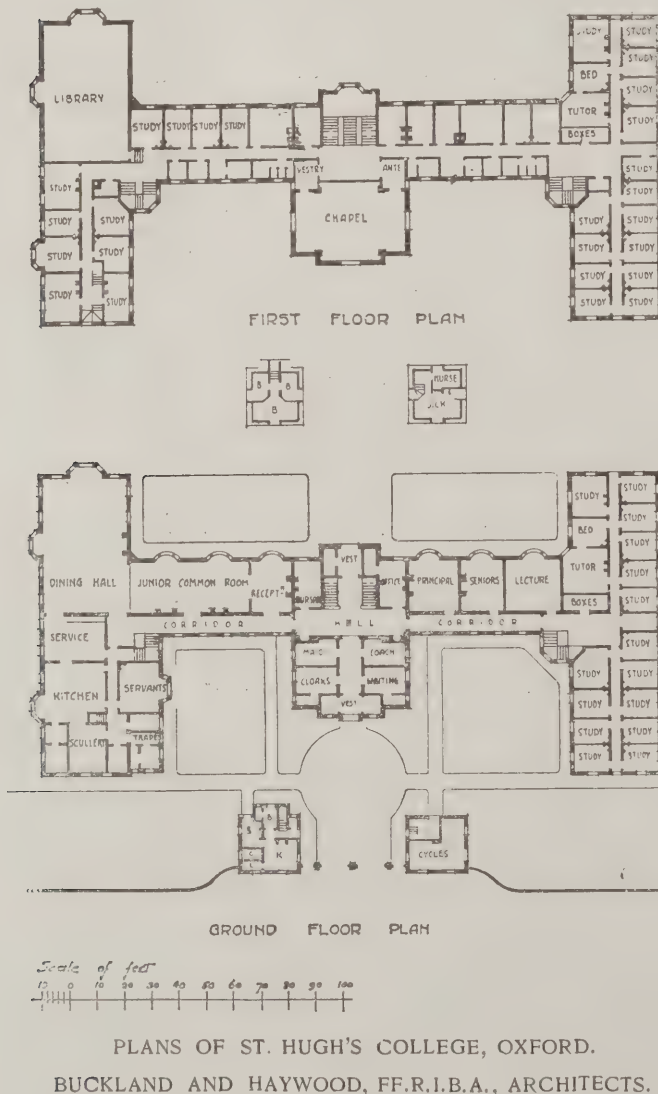
The Plates Described

Royal Leamington Spa War Memorial.

THIS design, by Messrs. Daniel and Austin, F.R.I.B.A., was awarded the first premium of £100 in the competition recently held by the Leamington Spa Corporation. The design is representative of the spirit of sacrifice. The general form is a cross, with the arms of the cross throwing upwards and inwards toward the central monument. On the side wings are registered, in bronze, names of the fallen, whose glorious death is symbolised by the combination of urns and sarcophagus in the design. This feature, incidentally, may also serve as a receptacle for floral offerings. The central ornamental feature is a bronze sculpture of a figure, the figure being symbolic of the spirit of progression, the figure being surrounded by flowers of success, and the crown of victory. The wings symbolise the ascent to a higher plane of existence. The monument generally to be in Portland stone, the ornaments where shown, together with panels of inscription, are to be in bronze. The water cast off from the monument is to be collected in channels and taken through pipes internally, so as to cause no disfigurement to the face of the stonework. The steps are to be in granite and the paving in York stone. The core of the monument and its foundation will be in coarse concrete. The cost of the work is estimated at about £5,000.

St. Hugh's College, Oxford.

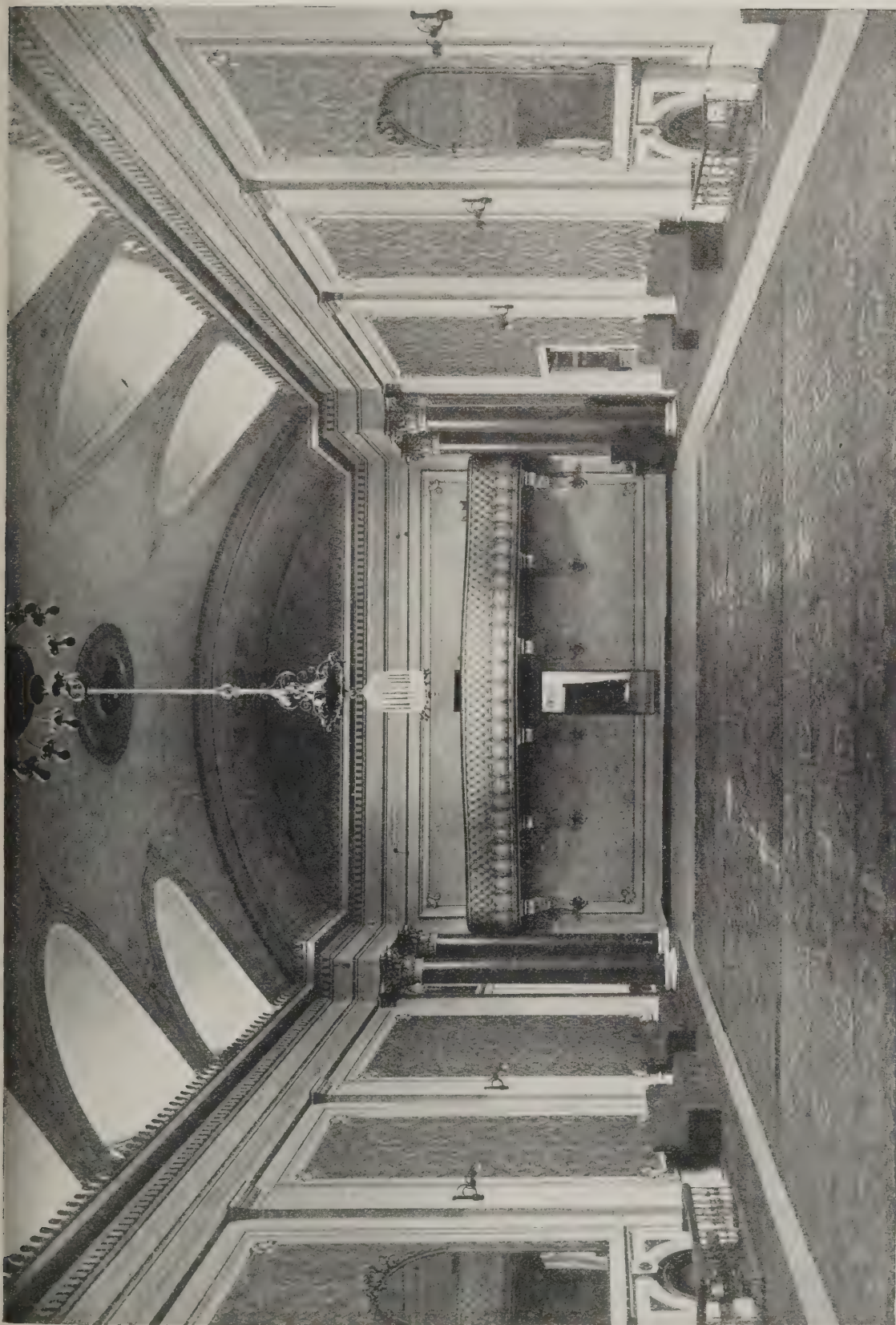
This college was founded in 1886 by Miss Elizabeth Wordsworth under the title of St. Hugh's Hall. It was recognised from its foundation as an independent institution by the Association for the Education of Women in Oxford, and in 1888 its principal, with the principal of Lady Margaret Hall and Somerville College, became members of the council of that association. In 1891 St. Hugh's Hall was placed under the management of a council: it was constituted under a deed of settlement in 1894, and incorporated in 1911 under the Companies (Consolidation) Act, 1908, under the title of St. Hugh's College. On November 1, 1910, it was recognised by a Decree of Convocation. We believe we are correct in saying that the fine new building which has now been completed from the designs of Messrs. Buckland and Haywood, F.R.I.B.A., is the first women's college to be erected in Oxford, the others being merely additions to old buildings. The materials employed in its erection were sand stock bricks from Reading, with dressings of Bath stone. The external joinery is for the most part in deal, stained with Solignum, but there is a gallery at the end of the building where it is carried out in oak. Many of the room decorations are in decorative plaster work, which was supplied by the Bromsgrove Guild. The general contractors were Messrs. Moss and Sons, of Loughborough. The heating and cooking plants were carried out by Messrs. Henry Hope and Sons, Ltd., of Birmingham, and the lead gutters and spout-heads. Moss's





ST. HUGH'S COLLEGE FOR WOMEN, OXFORD: SOUTH ELEVATION.

BUCKLAND AND HAYWOOD, FF.R.I.B.A., ARCHITECTS.



THE BALL ROOM, ROYAL HOTEL, PLYMOUTH, RECENTLY DAMAGED BY FIRE. JOHN FOULSTON, ARCHITECT.



ROYAL THEATRE AND ATHENÆUM, PLYMOUTH.
JOHN FOULSTON, ARCHITECT.

reinforced concrete was employed for the whole fire-proof construction, floors, and staircases. Messrs. T. J. Haywood and Haywood are to be congratulated on their designs, which are well composed and full of interest. A well and effective use is made of bow windows at the ground-floor level, and another excellent feature of the building is the small and gracefully proportioned lantern over the roof ridge.

The Ball Room, Royal Hotel, Plymouth.
Architects who are familiar with the work of John Foulston in the West of England will learn with regret that one of his most attractive buildings—the Royal Hotel, Plymouth—has lately been involved in a fire, serious damage having been done to the ball room, some illustrations of which are given in this issue. The room was designed in 1806 after Foulston had won the competition for the hotel and theatre. Foulston's mastery in the handling of interiors is well shown in this room. The lighting by lunettes at the springing of the segmental

vault is singularly effective. The musicians' gallery is a very elegant piece of design, and shows the pleasing effect that may be secured by the right handling of this feature. Note the diminishing of the consoles.

Remodelling Slum Areas.

These plans are reproduced from the Ministry of Health's Manual of Unfit Houses and Unhealthy Areas. Plan 5 A shows an area of old buildings in a large town; there is a station of minor importance adjoining the area on the western side. It is assumed that there is some demand for land in the area for industrial and business purposes. The portion surrounded by a thick black line is an unhealthy area and requires to be entirely cleared and replanned. In the replanning of the area, some sites adjacent to the railway have been allocated for industrial purposes, and the frontages upon the main roads for business and commercial uses. The rest of the land has been devoted to housing a part of the displaced population, the surplus population being rehoused on other sites outside the area. It is important, in remodelling this area, to keep in view some town-planning considerations affecting the district as a whole. It is very desirable (a) to approach the general area of the railway station, from all directions and to construct a good through road to the station from the part of the town to the east of the area, and (b) to obtain a good main road running approximately parallel with the railway and at no great distance from it in order to minimise the inconvenience caused by the railway. The Ministry's plans should afford valuable guidance to local authorities and others who may be called upon to deal with these great slum areas. Some interesting extracts from the Manual are given on later pages in this issue.

Details from the Capella Pellegrini, Verona.

Mr. Musman's sheet of measured details from San Michele's delightful little chapel at Verona needs neither comment nor explanation, being self-explanatory.



MUSICIANS' GALLERY IN THE BALL ROOM, ROYAL HOTEL, PLYMOUTH.

Correspondence

Architectural Education: A Criticism and a Programme.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of November 19 Mr. Paul Waterhouse replied by letter to certain of the criticisms contained in my article on "Architectural Education," published in the Journal on October 29. These criticisms were in the main concerned with the Institute's educational policy, and as Mr. Waterhouse is the present chairman of the Institute's Board of Architectural Education—the Committee which gives effect to and is in a large measure responsible for that policy—I take it that his statements represent more or less the official view of the Institute on the questions under discussion. Mr. Waterhouse's letter is therefore of the first importance, and its contents require careful analysis.

It will make for clearness if the opinions and statements advanced by Mr. Waterhouse are each examined separately. This I propose to do, taking his points in the order in which they occur in his letter:

(1) *The "assumption that the neglect by the Government of the services of architects during the war was due to insufficient education among architects is a very rash opinion."*

I submit that this is not a rash opinion, but a commonsense deduction from the facts of the case. No Government with sufficient intelligence to govern could be expected to recognise and to entrust effective powers to a profession as irregularly and inefficiently educated as the architectural profession is known to be. That truth may be unpalatable to architects; it is not therefore the less true. The claims of the medical profession were acknowledged, and its services fully utilised by the Government, because the obligatory system of academic education imposed upon the members of that profession justified its claims and guaranteed the value of its services. That was the basic reason for the favourable treatment which the medical profession received. Until the Institute reforms its educational policy and insists upon its members qualifying through the Universities, as the institutions whose prestige and whose technical resources actually or potentially best equip them for the purpose, architects will continue to find themselves at a hopeless disadvantage in dealing with the Government—and rightly so.

(2) *"If, however, the assumption were correct, why transfer the blame to the R.I.B.A., the body—the only body—to whom the systematic advance of organised architectural education in this country is primarily and fundamentally due?"*

There is no virtue in the adjective "systematic" if the system to which it refers is vicious; and rotation round a fixed point does not constitute an "advance" as the word is commonly understood. The authorities of the Institute must be prepared to bear the blame for the present state of affairs precisely because, in their position of unique responsibility, they have not progressed in educational policy, but have perpetuated an obsolete system that moves in a vicious circle.

Centralised tests are imposed as a substitute for organised education. And the traditional alternatives to regular and

scientific training—the office, the night class, the correspondence school—thus sustained become in their turn the justification of the centralised tests. For the unfortunate and far-reaching consequences of this the Institute is directly responsible.

Long ago the Institute should have required from all candidates for membership, as an indispensable preliminary qualification, an academic degree in architecture obtainable only after a lengthy full-time course. It is more than ever necessary that this reform be initiated now. If it be objected that such a regulation would shut out a proportion of meritorious applicants, it must be replied that hard cases make bad laws, and that, in this instance, the hard cases can be eliminated by (1) fixing a time limit of approximately ten years before bringing the regulation fully into force, and (2) securing the provision of competitive scholarships for those who require assistance and can justify their claim to it. None of these things have been attempted by the Institute, and its negligence is the measure of its culpability.

(3) *"The whole system of architectural education throughout the country is stimulated by the standards set up—and from time to time strengthened by the R.I.B.A. The schools may ridicule that system—but they submit to it—often with a very good grace."*

By "the whole system of architectural education throughout the country" I presume that Mr. Waterhouse means the variety of systems—many of them not educational in any sense—permitted to exist under the Institute's *laissez-faire* policy. Certain of them are no doubt stimulated by the Institute's standards; but none that is desirable is so stimulated. Centralised examinations conduce to intensive cramming and to nothing else; and cramming is the antithesis of education.

It is true that the schools have adjusted some of their courses to assist students in qualifying for the Associateship of the Institute. The fact that they have done so, however, is no proof of their approval of the qualifying tests or of the régime of which those tests are the product. Membership of the Institute carries with it professional privileges for which there is a natural demand. The schools therefore provide facilities to meet that demand. They are not thereby committed to agreement with the method of qualification involved.

(4) *"It may be well to expose Mr. Budden's suggestion that the Institute favours office pupilage as the normal means of training for its examinations. That office training should be abandoned would be, in my opinion, a calamity to architectural students—but that the Institute has fostered it I emphatically deny. It is an undeniable fact that the policy of the Institute in setting the examination standard, and in fostering the growth of the schools, has dealt an almost mortal blow to the old system of pupilage. In fact, the danger of the hour is lest office training should be unduly suppressed."*

Rhetoric cannot clear the Institute of the charge of giving at least passive encouragement to office pupilage. The facts are against Mr. Waterhouse. So long as the Institute permits candidates for membership to qualify through the medium of the office, on the same terms as those who have passed through the schools, the Institute is supporting the pupil system and recog-

nising it as a normal means of training. And that is the present situation. We speak of the Institute as "fostering the growth of the schools" when it has scribed no limit to the continuance of the anomaly is to attribute to the Institute more disinterested solicitude for architectural education than it has ever displayed.

Mr. Waterhouse makes the impression of admission that the old system of office pupilage is on the wane, but he does not see the prospect of its final abandonment. There should be no cause for regret that the medical profession there once had a system of apprenticeship, mainly because it was thought that a practical experience of medicine was best gained by the student under that system. Ultimately it was given up in favour of scientific clinical training administered in hospitals as part of a regular academic course, with vastly beneficial results.

The same procedure will in the end be followed in architectural education, and the incomparable resources of the Universities in technical equipment, expert knowledge utilised and devoted to the fullest extent. For thus alone can the practice of architecture be scientifically taught. Office experience is at the moment altogether too haphazard and restricted. The largest architectural office deals with a relatively limited range of work, with only a fraction of this fragment of the office pupil brought into touch. In contact with it is in the capacity of an instrument, not of a student; and although he learns he "picks up" incidentally upon no logical theory of instruction. Mr. Waterhouse may wish to retard the progress of this makeshift system. He will find sympathisers among the rising generation of architects.

(5) *"Considering the fact that almost the oldest members of the Council are young enough to have had to go through the examination for Associateship, Mr. Budden's strictures are a little wild. I imagine that the setting up of the 'Committee' (the Board of Architectural Education) was due to a wish on the part of successive councils to make sure that the control of the examinations was left in the hands of the men best qualified by their own training and their interest in the education of others to further the cause of architectural education."*

The suggestion that a person who has passed the Institute's examinations should automatically be considered a trained and competent authority on architectural education is really too naive. Such an argument does not require to be picked apart. It explodes of itself.

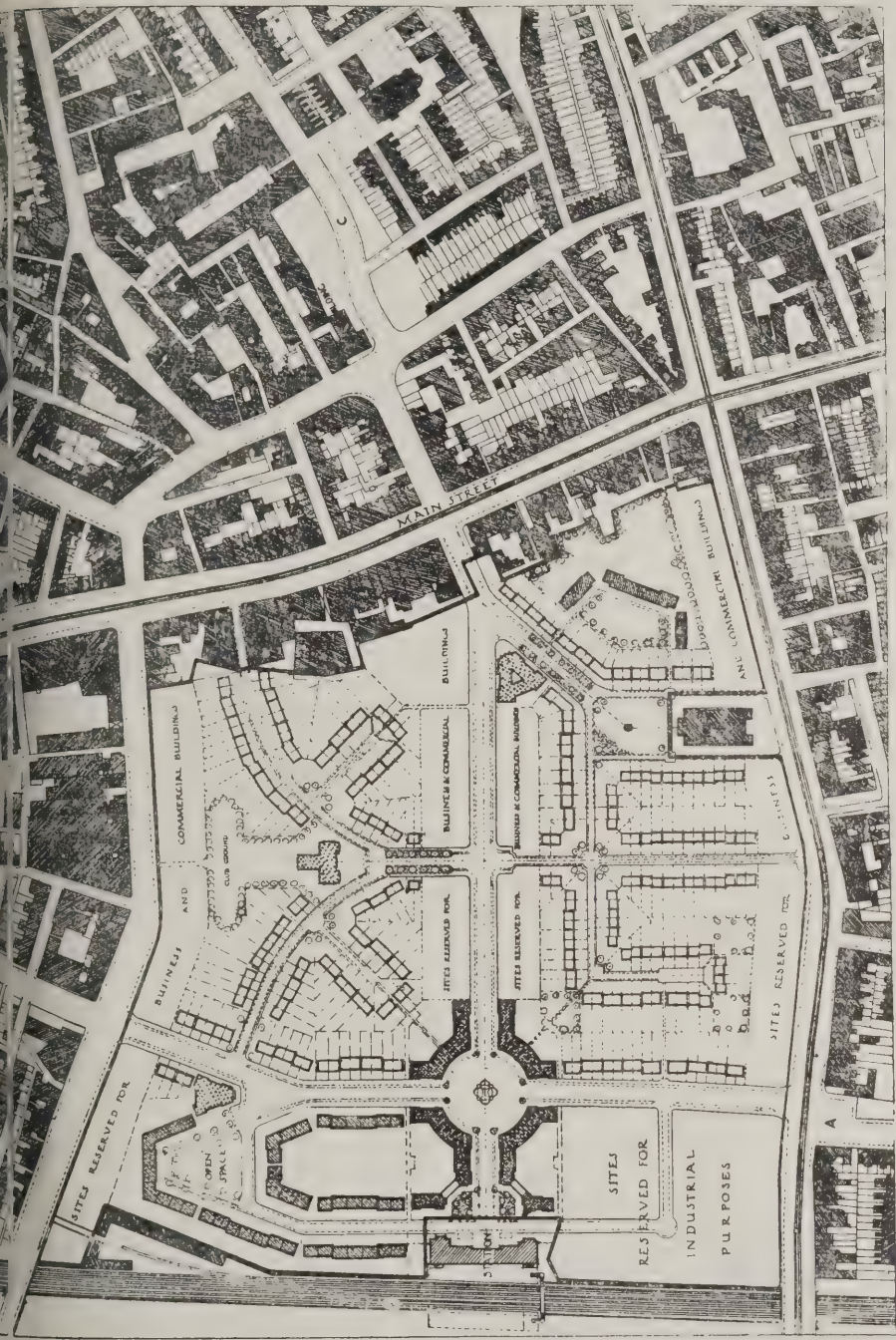
(6) *"I do not think that Mr. Budden has the least realisation of the value to that Committee (the Board of Architectural Education) of the members of the teaching profession who sit both as full members and as advisory members at its deliberations."*

When the educational policy of the Board results in the execution of an enlightened programme, it will be enabled to recognise the influence of those members of the teaching profession who sit on the Board and are endowed with full voting powers.

Mr. Waterhouse's reference to the influence of the advisory teaching members is little unhappy. If he will consult the minutes of the Board he will find that advisory members have been summoned precisely once since 1911.

(7) *"Mr. Budden is very hard on the existing architects. He seems to con-*





The shaded areas are reserved for industrial purposes. The buildings shown near the station hatched are two or three-story blocks of flats are shown hatched with self-contained flats. The site marked with dark line is reserved for industrial buildings. The remainder of the area will be disposed of for industrial or commercial purposes as indicated on the plan. Street improvements at A, B & C have been effected and the buildings shown black on plan 5A have been removed.

PLANS SHOWING SLUM AREA IN A LARGE TOWN BEFORE AND AFTER PARTIAL REMODELLING.

(From the Manual on Unhealthy Houses and Unhealthy Areas, issued by the Ministry of Health.)

practising architect has, ipso facto, the knowledge of what an architect is. I may remind him that after the whole and sole object of architectural education is to produce architects of practice, and that an architect of practice is a better judge of an architect's qualifications than anyone else possibly be."

The mere fact of being in practice incites most teaching members of the Institute to be—there is no guarantee of the soundness of an architect's judgment upon his qualifications for practice. It is only after an architect should practice before his views on the subject become of importance. And, normally, an architect must be well trained before he can practice well. Relatively few architects in this country have received a scientific education in architecture. The practical majority is therefore seriously deficient; and their opinion upon educational questions too inexpert for it to be taken as authoritative.

The question whether in any sphere students should be educated by their own teachers or by outside teachers is a very old one, and is likely to remain so until it is settled. It may be that there is something to be said on both sides; certainly the teaching profession always plenty to say on their own side. They urge that if Professor X is the man to draw it out, he is perfectly sound logic, but not necessarily the least to the point. What the body controlling the architectural education wants to know about its application of admission, is not whether they can bowling of Professors X, Y, or Z, but whether they have been coaching them at the nets for four years, but whether they have been successfully against the untried volleys, half-volleys, yorkers, and uncalled no-balls which they will find on the unsteady pitch of an architectural education.

Mr. Waterhouse entirely misconceives the question. No one proposes that the school examinations should be conducted exclusively by the teaching staffs of the schools, but the present system, adopted for the examinations, is accepted by the Institute and is extended to the Final, and the latter is decentralised and the examination delegated to the Universities.

That system involves the nomination and appointment by the Universities of external examiners who are members of the Institute's Board of Architectural Education. The external examiners so appointed not only collaborate with the teaching staffs in the setting of papers, the judgment of work and in the oral examination of students, but have the right to exercise an absolute veto on the decisions of the boards of examiners.

(9) "There are two cherished possessions which the Institute will never abandon—one of these is its deep and now ancient interest in architectural education, and the other is the key to its own door of membership. . . . it will never, I believe and hope, abandon its hold on the conditions of admission, or subscribe to the idea that it cannot find among its own members a quorum of persons capable of deciding what an architect needs to be."

It has not been suggested that the Institute should abandon its interest in architectural education—only that that interest should manifest itself in a reasonably progressive form. Nor has it been advocated that the Institute should relinquish the right to accept or reject candidates for membership. The procedure of admission by election has not been assailed. All that has been urged is that after 1930 all applicants for admission should be required to have qualified through the University Schools and received an academic degree. There is no question as to the Institute's ability to "find among its own members a quorum of persons capable of deciding what an architect needs to be." Such members are to be found—but a sufficient number of them do not yet occupy positions of determining influence on either its Council or its administrative Committees.

Mr. Waterhouse speaks encouragingly of the prospect of some immediate reforms in the Institute's educational policy. If these are adequate and carried into effect under his chairmanship of the Board it will be a cause for the sincerest congratulation. But the process will involve a considerable modification of the views he at present holds.

An earnest of the sincerity of the Board's intentions would be the immediate decentralisation of the machinery whereby the testimonies of study required for the final examination are judged. At present an anonymous sub-committee of the Board (a

sub-committee the names of whose members are never published) sets the conditions for the testimonies and judges them in London. Without explanation, rejected designs are returned to candidates living in all parts of the country, who are expected to try again, and to keep on trying, unassisted by helpful criticism of any kind. The practice is unjust and unreasonable: it can be transformed quite simply.

Let the Board request the heads of the schools, acting in collaboration with other representatives of the Board, to set the conditions of the problems; then let the candidates send their solutions of the problems to the nearest school in their district, where they can be judged, and a public criticism of each design given by the members of the school staff, assisted, if necessary, by a local non-teaching member of the Institute. By this means the congestion at the centre will be relieved, and all candidates, whether working in schools or in offices, will have the satisfaction and benefit of definite guidance. The reform suggested is a relatively modest one, but it has been long overdue.

I should like, in conclusion, to thank Mr. Waterhouse for his detailed reply to my article. I would also express the hope that he may return to the charge, as I am persuaded that the longer this correspondence continues the more fully must the position of the Institute be exposed, and the better must the interests of architectural education be served.

LIONEL B. BUDDEN.

Concise Costing for Housing. To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have read carefully the articles by Mr. T. Sumner Smith, and was particularly interested in that dealing with scientific costing. Although Mr. Smith has stated that scientific costing is deserving of a special treatise, he would, I think, have added materially to his valuable and practical articles had he given a list of the documents from which he has so ably tabulated such useful data, if only to act as a stimulus to the study of the subject and to enable a comparison to be made for costings of similar works.

As a builder of many years' standing, and a reader of your esteemed periodical, I wish to thank Mr. T. Sumner Smith for having rendered a great service in demonstrating so clearly that quantities may be made to serve as an aid in ordering materials, checking costs, and to provide a more equitable and expeditious way in squaring up contracts.

J. W. CLAYTON.

[The list of documents to which our correspondent refers will be given in the book on "Concise Costing" which is shortly to be published from this office.—Eds. A.J.]

A Visit to a Country Villa Eighty Years Ago.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have read the account of a visit to a country villa eighty years ago with interest, and beg to submit a photograph showing a parlour interior furnished in the taste of 1815, which may please the writer of the article.

THEOPHILUS JULIAN.

[As will be seen from the illustration, the reeded pilasters and roundels to the white marble mantelpiece, the flat cornice, as well as the snug character of the room, give a general idea of the small interior of the period.—Eds. A.J.]



PARLOUR INTERIOR FURNISHED IN THE TASTE OF 1815.

Unhealthy Areas and Re-Housing

THE Ministry of Health have just issued for the guidance of local authorities Volume I. of the "Manual on Unhealthy Houses and Unhealthy Areas." The manual, which may be obtained from H.M. Stationery Office, price 1s. net, gives a general statement of the law on the subject and of the policy to be adopted in its administration. An indication is given of the types of area for which improvement schemes should be made, as well as some interesting observations on re-housing, and a number of typical plans, a selection of which we reproduce.

The manual states that, as a rule, clearances must, for the present, be undertaken gradually, so as to avoid any serious de-housing, but nevertheless the local authority should formulate a comprehensive programme for dealing with these areas. A part of the area should be cleared, and rebuilding undertaken on that part, if to be used for re-housing; afterwards the next part of the area can be cleared and rebuilt; and so on. If permanent accommodation is not available for the persons to be displaced by a clearance, special temporary accommodation should, if necessary, be provided—a few huts may be provided or empty houses or buildings may be converted into temporary quarters, or in some instances special accommodation may be made for single persons.

Local authorities should aim at more than mere patchwork proposals in preparing any improvement scheme. To make a scheme efficient, the local authority may include lands adjoining the unhealthy area, even though the buildings on those lands cannot be regarded as unhealthy. Slum clearances are likely at best to be costly. Unwise, indeed, therefore, were it to undertake them without having regard to the future and fundamental needs of the town or district. It should be a truism that no large cleared area should be replanned without having in mind what is to be the future development of the town—where the big main roads are to run, where are to be the business quarters, where the factories, where the residential quarters, where the parks and playgrounds. Local authorities are strongly counselled to have before them a

plan, in broad outline at least, of the future development of the town before they undertake any large scheme of improvement; delay need not be, and should not be, incurred.

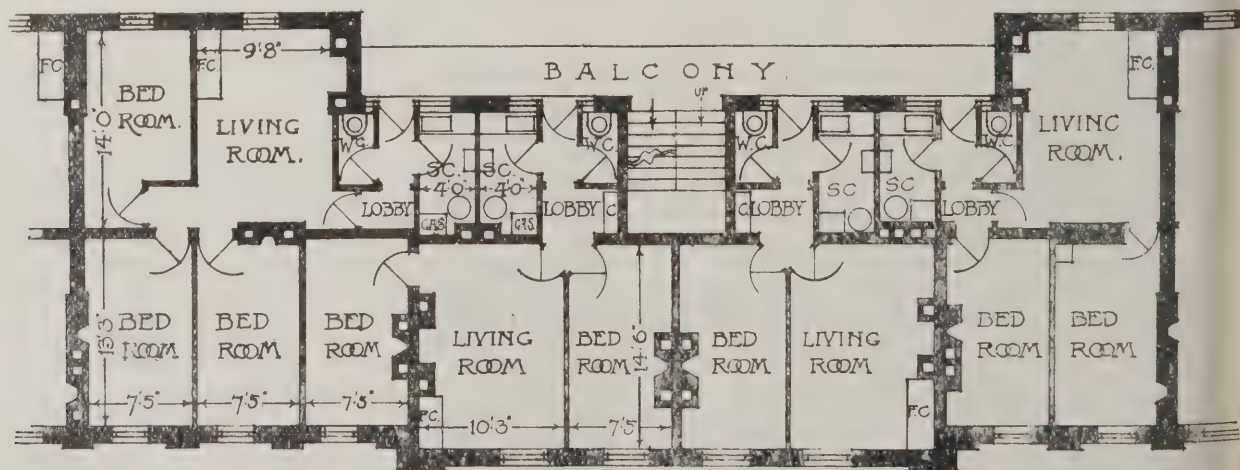
There may be some unhealthy areas which can be dealt with by improvement schemes under which only a small proportion of the houses are pulled down to improve ventilation and to secure more open space, while the remaining houses are put into better condition. It may seem contradictory that a local authority should acquire an area as unhealthy and then not proceed to demolish the buildings, but to use them for dwellings. There is, however, no contradiction. The area as it stands is unhealthy. The most satisfactory way of dealing with it is by treating it as a whole, and by an improvement scheme for the whole. Houses are pulled down for the good of the area as a whole. With these betterments, added to improvements to the houses which remain, added also to better management, the unhealthiness of the area may be removed, and that without excessive cost. The Ministry, therefore, suggest that local authorities should consider whether, in suitable cases, schemes of this type are advisable. At the same time there should be no illusion on the matter. Schemes of this type are adapted only for certain kinds of areas, where there is not grave congestion of buildings and where the slum conditions are not of the most serious character. There must be clear evidence that, by such a scheme of partial clearance, the unhealthy character of the area will be removed. In many cases, schemes may be adopted providing for the retention and repair of some houses as an intermediate measure. While fully recognising that the area cannot be treated with complete success except by wholesale clearance, yet, having regard to the present pressure of more urgent needs, it may be reasonable for the moment to be content with a scheme which will remove the graver ills, leaving the fuller remedy for a more convenient time.

In some instances in the past it has been possible to secure the opening up of congested areas or groups of buildings by

arrangement with owners of property. The owner may agree with a local authority the demolition of part of his property may benefit from the improvement of other property in consequence of demolition. The local authority bring pressure to bear on him by which they can take as regards property if the desired improvement is undertaken. One advantage of this is that the improvement may be effected with despatch. The area affected by any one of this kind may be generally small; but a number of cases have been undertaken at the same time and immediately after one another, and improvements effected may be large.

In spite of the rapid development of large towns and urban centres the contained cottage has continued in the country to be the customary form of housing to a much greater extent than characterises most other countries. They have undergone similar development, this comparative freedom from overcrowding dwelling has been regarded with envy by those countries and cities have had the misfortune to adopt the tenement system to any great extent. The advantage should be maintained, will be the normal policy of the future. Even where re-housing has to be carried out on the cleared area, and the land may have been been considered will be desirable to adopt the cottage form of housing. The fact that the adoption of cottages would allow a larger number of families to be placed on the site, to some extent the cost of land and building will generally not outweigh the advantages of the congestion of buildings on the site.

Even where there are special reasons for re-housing a larger number of people the cleared site than would ordinarily be allowed in a new housing scheme, generally be better to increase the number of houses per acre rather than to increase the number of tenements. When increasing the number of cottage dwellings it must be remembered that, owing to the fact that a cottage requires a certain area of access, the size of the garden

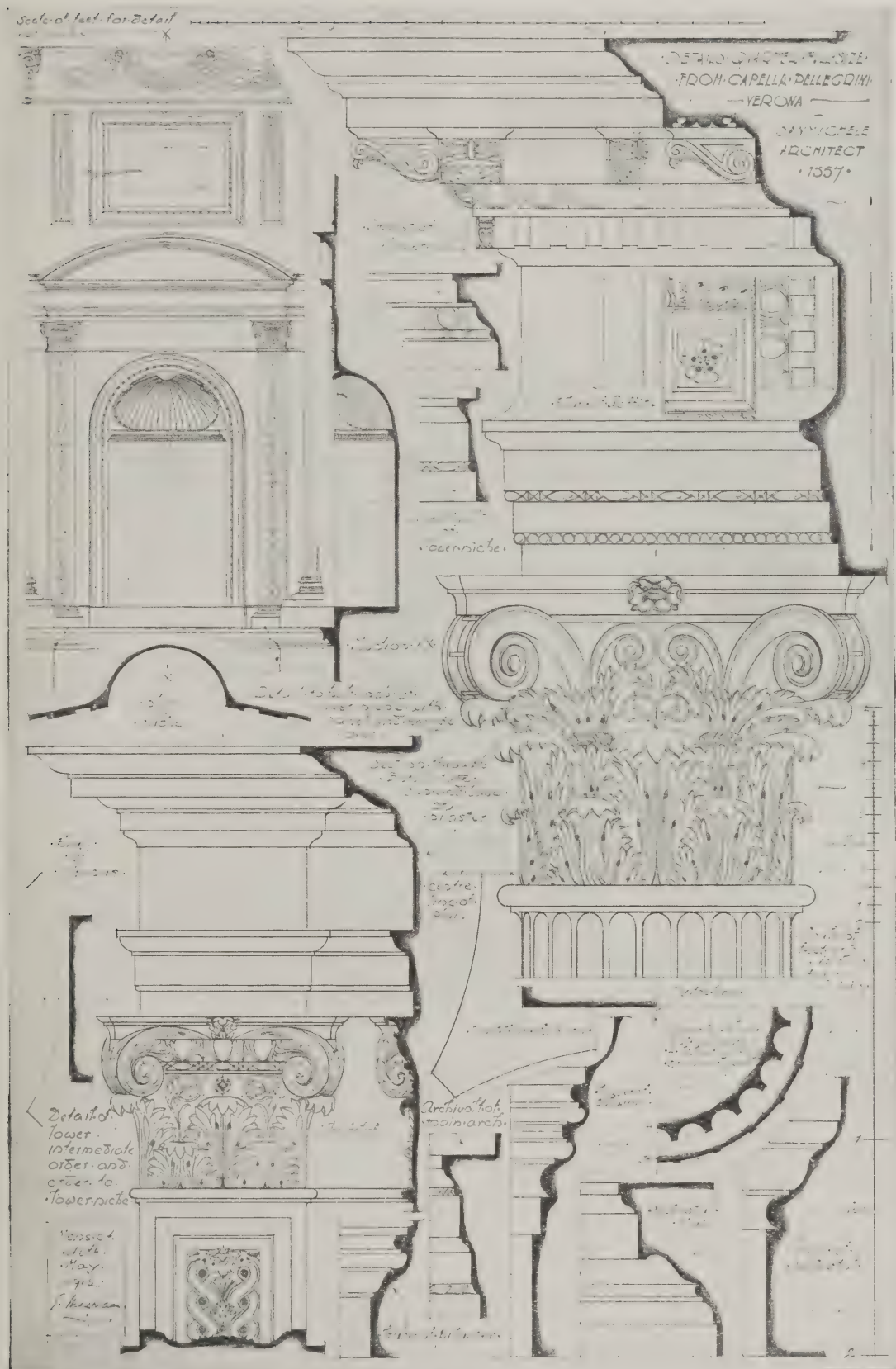


FIRST FLOOR PLAN

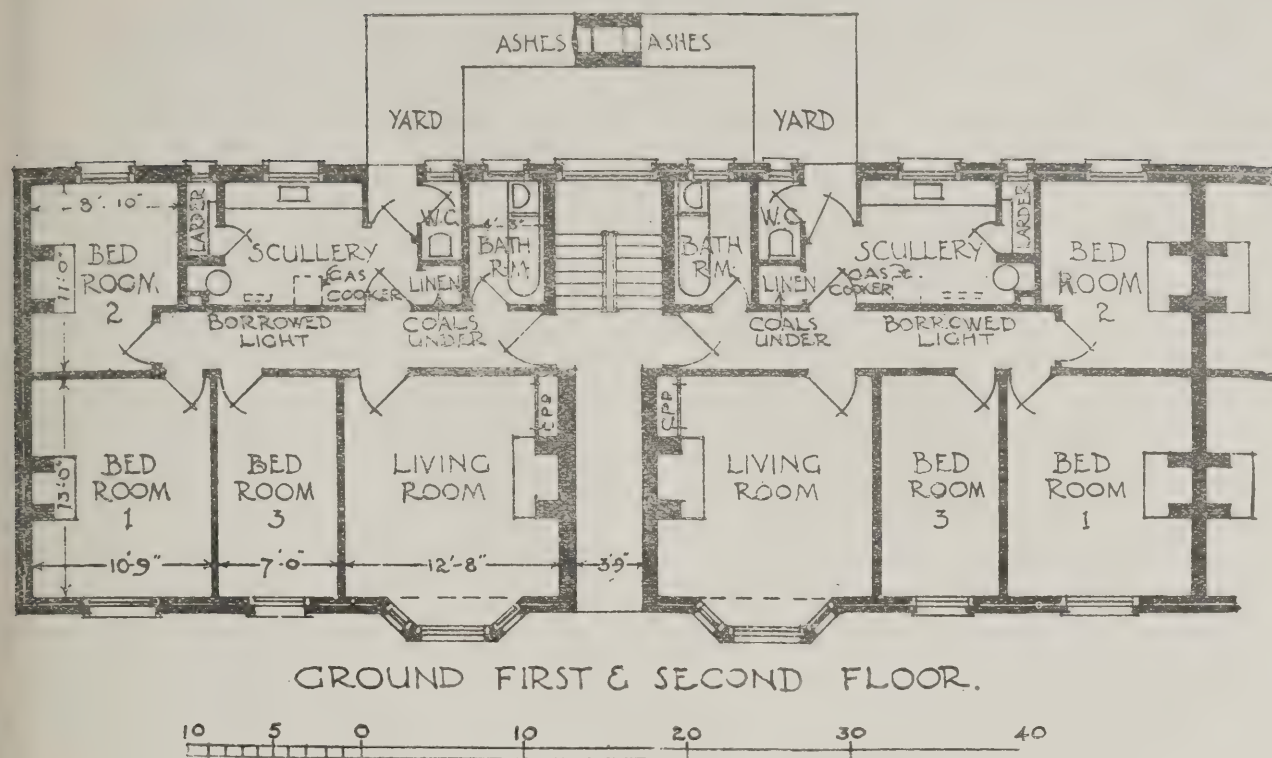
10 12 23 45 40 20 30 40 50

PLAN OF TENEMENT DWELLINGS IN LONDON.

W. E. RILEY, F.R.I.B.A., LATE SUPERINTENDING ARCHITECT TO THE L.C.C.



DETAILS FROM THE CAPELLA PELLIGRINI, VERONA. SAN MICHELE, ARCHITECT.
MEASURED AND DRAWN BY E. MUSMAN, A.R.I.B.A.



PLAN OF TENEMENT DWELLINGS IN LIVERPOOL.

F. E. G. BADGER, DIRECTOR OF HOUSING TO LIVERPOOL CORPORATION, ARCHITECT.

age diminishes very rapidly as the number of houses is increased, and so soon as the plot is diminished below a certain amount the amount of ground to each plot becomes so small that gardens are rendered impracticable; the space has to be paved and treated as a yard space, and the whole utility of the arrangement is very seriously reduced. The amount of ground necessary to provide for a garden plot depends somewhat on the size of the individual cottages, but generally speaking it may be said that about twenty houses to an acre, net measure, should be regarded as the maximum which it would be desirable to erect on sites of the kind under consideration.

Tenement buildings will generally be erected only where it can be shown that the large population, compared with the amount of land available, has to be housed on a small area. Another reason which may be advanced for allowing tenement buildings is the high cost of land. On this question it is to be remembered that, in the case of an unhealthy area, the price paid for land is governed by its use under the present scheme of the local authority, and that, therefore, there is the less reason for resorting to congested building. Difficulties may arise in some cases where land was acquired, possibly at a high price, before the Housing and Town Planning Act of 1919 was passed. It may be urged even if it be assumed that the very high cost of the use of the land for intensive building may have forced up the price of land, there is little or no effective demand for the land for commercial or business purposes, still the price has been advanced and that the local authority would be forced to build tenement dwellings. Cases of this kind may require special consideration, and there may be other cases, particularly during the special emergency period through which we are now passing, where the erection of tenement dwellings may be justified. The Ministry have no wish to adopt any pedantic attitude on the question. But it must be borne in mind that

such dwellings are opposed to the habits and traditions of our people, that they are condemned by the best housing experience, and that, as already stated, where tenements have generally prevailed opinion is steadily becoming opposed to them.

Three-storey tenements should be the general limit, and on the score of health, amenity, and cost, this height should not ordinarily be exceeded. In this connection, attention may be drawn to the report of the Royal Commission on the Housing of the Industrial Population of Scotland.

It has been suggested that some of the objections to many-storey buildings might be met by providing a lift or an inclined way for a block or series of blocks of flats. The cost, however, of adding a lift would be high. It has been estimated that the annual cost of a lift to carry six persons would be from £350 to £400. The provision of an inclined way (which would take the place of the staircase) is a proposal worth considering where there is a series of blocks. Here again, however, the additional cost might be large, for, in addition to the inclined ways, one of which might be placed at each end of the series of blocks, the several blocks would have to be connected at each storey by bridges if staircases are to be avoided.

Whatever design be adopted, it must be recognised that a many-storey building is at best a poor erection for families with children. Apart from the disadvantages of crowding a large number of persons on the site (such as the increased risk from infectious diseases) the children of families living in the upper storeys, particularly the young children, will be kept indoors much more than is good for them, with detriment to their vigour and healthful growth. The importance of this factor cannot be placed too high, and is in itself a strong reason why, in the absence of very exceptional circumstances, tenements should not exceed three storeys in height. As regards cost, also, it does not follow that, apart from the possible saving in land, it will be cheaper to build many-

storey tenements. The solidity of the structure will have to be increased largely after three or four storeys have been reached; and the increased expenditure in this respect has to be set against any saving that may be effected on roofs and foundations. A further consideration is that the higher the buildings the farther should they be placed apart in order to secure adequate light and air to the flats on the lower floors; and, consequently, in a properly planned scheme, there might be little saving on the land.

The plan of the London tenements was designed by Mr. W. E. Riley, F.R.I.B.A., formerly superintendent architect to the L.C.C. and illustrates how one common stair can serve four dwellings on each floor. Each block contains two three-room, one three-room, and one five-room dwelling, but the area is below the standard now considered desirable. The two dwellings furthest from the staircase are approached by an outside balcony, and the plan is so arranged that no living rooms or bedrooms are overlooked from the balcony.

The plan of the Liverpool tenements was prepared by Mr. F. E. G. Badger, Director of Housing to the Liverpool Corporation, and embodies the latest requirements from experience gained in that City. The entrance passage to the staircase is repeated as an open space on each floor to provide through light and ventilation to the staircase, and for use by the upper floor tenements for the storage of perambulators, etc. In the London types of similar buildings each tenant carries down the refuse, which it is not possible to burn, to dustbins on the ground level. The practice of Liverpool is to provide a railed balcony on each of the upper floors, from which a shaft is approached, down which the ashes are dropped through specially contrived hoppers. In each of these dwellings a copper is provided. The general need in Liverpool is for four-room tenements, and the accommodation provided as shown on this plan appears to meet all the requirements of a flat.

"BLACKBALLING" OF R.I.B.A. CANDIDATES.

A special general meeting of the R.I.B.A., summoned by the Council under By-law 65, was held on December 1 to consider a resolution moved on behalf of the Council, under By-law 67, for the suspension for a period of twelve months of portions of By-laws 10 and 11 referring to the election of candidates.

Mr. A. W. S. Cross, vice-president, who occupied the chair, read the following letter from the president, Mr. John W. Simpson:

It is with deep disappointment that I find myself obliged to ask you to forgive my absence to-night, but I am prevented by the benevolent tyranny of my doctors, and from that there is no appeal. I venture, nevertheless, to send you a few words on the subject which has led your Council to call the present meeting. It was decided, by the previous Council, that our demobilised men—those, to quote the words of His Majesty and our gracious Patron, "whose war services entitled them to every consideration at the hands of their grateful country"—should, if they had complied with certain conditions, be admitted as candidates for the associate-ship of this Institute. If this policy had been disapproved of by our members, it was open to them to challenge the Council at a general meeting, and to exercise their power of adverse vote. This was not done, and it may be assumed that opinion—at any rate that of the majority—was in favour of making the concession I have mentioned to the boys who have fought for us. Some members, however, took exception, demanded a ballot, and, blackballed the candidates. I make no reflection on these members. They have a right to their opinion and I do not doubt its sincerity, though I think the means they adopted to give expression to it misguided and deplorable. But it is clear that the unfortunate candidates who presented themselves in good faith, and in compliance with the conditions published by the Royal Institute, have suffered grievous wrong. Not only are they marked with the quite undesired stigma of the black-ball, but are precluded by their rejection from being put forward again for twelve months. Incidentally, too, the members themselves have some ground for complaint, since each issue of balloting-papers inflicts upon us the expenditure of some £50 to £100. Other demobilised candidates have now come forward under the same conditions, and notice has been given by certain members of their intention to again demand a ballot. Under these circumstances, your Council has decided to suspend for a time the portion of By-law 10 which provides for such ballots, since the right it gives is being used, not to exclude an objectionable candidate, but to reject a whole class which has accepted the terms offered by the Royal Institute. The Council proposes, at the same time, to suspend part of By-law 11, so that the candidates who were so unhappily blackballed may be again proposed without inflicting on them the injury of further delay. They have lost four and a half years of their working life in fighting for our sakes; it is not just that they should be deprived, for another year, of any privileges we can offer them. I have thought it right to explain the circumstances for your information, but these do not touch the real point at issue. If there is to be any continuity of policy in our government, any of that unity in the conduct of our affairs which is so greatly desired, a Council must carry out the pledges given

by its predecessors, and the general body must loyally support them in their decisions and discountenance all sectional "direct action." It has been too much admitted in the past that a Council may bring forward proposals which are defeated or maimed in general meeting, and—accept the position. Believe me, gentlemen, your present Council is made of other stuff. They will submit for your approval matters which they have fully considered, on which their minds are clearly and unanimously made up, and they will expect you to back them. It is so in the present case; they have decided that the right course for the Institute to take is clearly marked; and they ask you to express your confidence in their judgment. The temporary suspension of the ballot will throw upon them an added responsibility for scrutinising all nominations they put forward. They recognise and accept that responsibility. I ask you to give them your unanimous and ungrudging support.

On being put to the meeting the following amendments were passed by 41 votes to 8:

By-law 10, line 4: From the words "Provided always that" down to the end of the by-law.

By-law 11, the concluding sentence: "No candidate who has been excluded from election shall again be proposed within a period of twelve calendar months."

An amendment by Mr. E. G. Allen, F.R.I.B.A., to suspend By-law 11 in respect of the last list of men who formed the subject of the recent ballot, also to re-submit the names with full details of war service and architectural training was negatived.

The two by-laws before amendment were as follows:

10. The voting at elections of candidates shall be by show of hands, and a candidate shall be elected if supported by a majority of those present having a right to vote and voting at such election. Provided always that if a requisition in writing signed by Fellows and Associates of whom not less than seven shall be Fellows (the total number of signatures being not less than twelve) be delivered to the Secretary not less than fourteen clear days before the Meeting at which such election is to take place, that the votes for the whole of the candidates, or for one or more specified candidates, be taken by voting papers, then the election or elections of such candidates shall be so conducted. Voting papers shall then be issued to all Fellows and Associates resident in the United Kingdom, and shall be returned to the Secretary, so that the same shall be received by him at the latest on the Thursday evening before such Business Meeting as aforesaid, folded and enclosed in a sealed envelope, bearing on the outside the signature and Royal Institute serial number of the member voting. The Council shall appoint not less than three Scrutineers of whom two shall form a quorum, and such Scrutineers shall be summoned by the Secretary to meet at the premises of the Royal Institute, and at such meeting he shall deliver to them the said envelopes, which shall be opened and the voting papers taken therefrom without being unfolded, the Scrutineers adopting such measures as they may deem fit to prevent the identification of the voters. The Scrutineers shall then examine the voting papers, count the votes, and report to the Royal Institute at any General Meeting the names of the candidates elected—negative votes in the proportion of one negative vote to four affirmative votes excluding

from election. The decision of Scrutineers, or a majority of them, shall prevail in all matters relating to an election final.

11. In case of the non-election of a candidate proposed to be elected by a show of hands, no notice shall be taken thereof in the Minutes of the Meeting. No candidate who has been excluded from election shall again be proposed within a period of twelve calendar months.

The above meeting was preceded by a business general meeting at eight o'clock when an amendment of Clause 9 (Housing Schemes and Laying-out Estates) of the Scale of Professional Charges was moved by the chairman and carried.

The new clause reads as follows, amendment being printed in italics:

9. *In the case of housing schemes and the laying out of estates*, special arrangements may be required in exceptional circumstances, but for ordinary cases the following shall apply:

[The Scale of Professional Charges was published on page 369 of our issue of September 17, to which those readers who desire to consult it should refer.]

THE BUILDING INDUSTRY AND THE NATIONAL HOUSING SCHEME.

A joint appeal has been issued by the Building Industries Consultative Board, consisting of representatives of the Institute of Builders, the National Federation of Building Trades Employers, the National Federation of Building Trades Operatives, the Surveyors' Institution, the R.I.B.A., and the Society of Architects, all members of the building industry, calling upon them in a great effort to overcome the difficulties which are at present hampering the industry. The representatives of the R.I.B.A. on the Building Industries Consultative Board are Mr. John W. Simpson, President of the Institute and Chairman of the Board; Mr. Newton, R.A., and Henry T. Hare, Major H. Barnes, M.P. Mr. E. J. Grove, F.R.I.B.A., President of the Society of Architects, represents the Society of Architects. The text of the appeal is as follows:

To All Members of the British Building Industry.

By a mighty national effort we have triumphed over the Central nations. We intended to ruin and reduce us and our Allies to a condition of impoverishment and slavery. Such a victory has, naturally, cost us a great price; we have to count the loss of valuable lives and of millions of money. We have won the fight, and determined to do, but we have to pay a heavy punishment.

It is not our intention to sit and lick our sores. We mean to consolidate the position we have gained and to hold it for ever and all; we will not allow it to be retaken by our enemies, nor will we be bought out of it by neutrals, or even by our friends. But we cannot depend on Government Departments to achieve this for us; we must do it ourselves. It is to every man in our industry to do his part and help to make good the national loss.

It is clear that we must make a united effort to win our share of the benefits of peace, like that we made to win the war. With this end in view, we, five representatives of the Architects, five of the Surveyors, five of the Building Trades Employers, and five of the Building Trades Operatives, have been appointed

form a Building Industries Consultative Board. The duty is laid upon us to direct the energies of all in renewing healthy life and activity throughout our industry.

First, we demand that the industry shall be free from the control and interference of officials, and enjoy the full liberty to manage its own affairs which it possessed before the war. The following resolutions were therefore been sent to the proper authorities:

That in the opinion of this Board the stocks of bricks and other building materials in excess of actual Government requirements, which are the property of or controlled by the Government, should be sold in the open market with a reasonable margin above cost to cover expenses.

That in the opinion of this Board the building industry and its associated trades should now be and remain free of Government control or interference."

Next, we ask that every member of the industry shall put forth his whole strength and push the rate of progress up to top speed. The more we produce the cheaper the prices of all we have to buy; the more he puts into the common pool of output the more each receives as his share. And we will use our influence to see that there is a fair division.

There is no fear of unemployment. Apart from urgently needed houses there are enormous arrears of building to make up; even with most strenuous work it will take many years before we can reach normal conditions and cope with the constantly increasing building demands of commerce. Now is our opportunity; if we neglect it the trade of our country will pass from our hands to those of the keen rivals who are seeking it.

Despite our private troubles the national position is excellent. Statistics show that we are already doing better than any European nation. The future is full of hope and promise. We have been forced to draw the sword against envious enemies who threatened our national existence. It remains only to make "a strong pull, a steady pull, and a pull all together" to secure prosperity and comfort for which we have fought.

JOHN W. SIMPSON,
President, the Royal Institute of British Architects, Chairman.

J. P. LLOYD,
President, the London District Council,
National Federation of Building Trades
Co-operatives, Vice-Chairman.

RESTRICTION OF THE BUILDING INDUSTRY.

The following letter has been sent to the Prime Minister by the Council of the B.A.:

Sir,—The President and Council of the Royal Institute of British Architects view with grave apprehension the suggestion of further control or restriction should be imposed on the building trades. From their experience is that the methods now in operation have created many of the existing difficulties, and that any further restrictions will accentuate them.

The Council therefore strongly urge that the steps deemed necessary to accelerate the provision of houses and utilitarian buildings, now urgently needed, should be directed to freeing the industry from control, thereby increasing the scope of employment, the development of enterprise, and the free circulation of materials.

LUXURY BUILDING, NATIONAL HOUSING, AND THE SOCIETY OF ARCHITECTS.

The Society of Architects have sent a circular letter to all members of the House of Commons urging upon them the extreme importance of removing all restrictions which stand in the way of the building industry at once resuming its normal course, and asking them to endeavour to stop any further restrictive legislation. The letter states that the Council resolved at a recent meeting to make the strongest possible protest against the proposals of the Government to subsidise one form of private building enterprise, and at the same time to stop what they may consider to be "luxury building." The Council is of the opinion that the present high cost of building is more largely due to the restrictions placed by the Government on building operations by private enterprise during the war than to any other causes, and that the present critical situation in regard to the National Housing Scheme is the result of Government control and management, which latter is also chiefly responsible for the restriction of the output in labour and the supply of materials.

It is maintained that the whole system of subsidies in connection with the building industry is wrong in principle and entirely unnecessary in practice, while the proposal to penalise one section of the building community at the expense of another is unwarranted by the present situation. The present subsidy will, in the opinion of the Council, increase the cost of building by further restricting the output of labour, while any stoppage of so-called "luxury building" will hamper still further the building industry, and aggravate the existing artificial conditions caused by the Housing Act. The Minister of Health and his advisers, the Committee state, must be aware that building can be carried out at less cost by private enterprise than by local authorities, and that any form of official control is detrimental from the point of view of economy and speedy production.

The Council point out that the remedy is to remove "restrictions on labour and materials, give opportunities and encouragement for workmen to increase production, stop profiteering and unemployment doles, do away with trusts and combines in building materials, facilitate transport, repeal restrictive legislation, remove control, and restore to private individuals the right freely to carry on their lawful business. The building industry will then revive, and there will be no lack of persons desirous of building houses, or of workmen and materials to enable them to do so."

Some months ago the Society of Architects invited the attention of local authorities to the advantages to be derived from carrying out the recommendation of the Tudor Walters' Housing Committee of the Local Government Board, that every housing scheme submitted to the Local Government Board shall be prepared by a competent architect, whose duty shall include the preparation of the lay-out plan, and the design and planning of all the houses. At the same time the Society gave reasons for urging the adoption of this procedure on professional, economic, and patriotic grounds. At that time the fees payable to architects so employed had not been agreed by the Government, nor

was it certain whether such fees could be included in the Government grant, but in September last the Ministry of Health issued a General Housing Memorandum, No. 4 (published in THE ARCHITECTS' JOURNAL of September 17), setting out the fees payable to architects in private practice, for professional work, which may be charged in the accounts of State-aided housing schemes and rank for financial assistance.

The Society has now circularised local authorities again urging upon them "the advantages to be derived from placing their housing schemes in the hands of competent architects in independent practice, and points out that compliance with the recommendation of the Ministry of Health for the employment of qualified architects, can be secured by retaining the services of members of the Society practising in various localities. Many of these architects have had special experience in housing work, and some of them have evolved and used systems of economic construction which meet the requirements of the Ministry of Health. The Society will be pleased at the request of any local authority to supply a list of local members, and respectfully submits that where local authorities prefer to invite architects by public advertisement to apply for housing appointments, it should be made clear that the appointment will be made on the merits of the professional qualifications of the candidates only, and that the fees payable to the architect appointed will be those agreed by the Ministry of Health for State-aided housing schemes, and which have been adopted by the Society."

QUESTIONS IN PARLIAMENT.

HOUSE OF COMMONS.

Reductions in Gas and Electricity.

Captain Bowyer asked the President of the Board of Trade whether and, if so, how the recent reduction of 10s. per ton in household coal applied to electricity and gas companies, and whether any arrangement had been made that a corresponding reduction should take place in the price of electricity and gas to consumers.

Mr. Bridgeman: Gas and electricity undertakings will receive, at the reduced rate, that proportion of their total requirements of coal which the amount of gas or electricity supplied by them for domestic or household purposes bears to the total amount supplied by them. There will be an adjustment in the price of electricity and gas supplied for domestic or household purposes, and as to that the Coal Mines Department is in touch with the interests concerned.

Concrete Cottages.

Sir J. Tudor Walters, answering a question addressed by Captain R. Terrell to the Minister of Health, whether he was taking any action in respect of the proposals for the construction of concrete cottages which were being submitted to him, said: An expert Committee appointed by me to consider and report on the questions of standardisation and methods of construction in house building have approved twenty-five different methods of building cottages in concrete, and I am urging local authorities to adopt concrete construction where suitable materials are available. Tenders for some 400 concrete houses have been approved by my Department, and a number of other proposals for the erection of houses to be constructed of concrete are included among the house plans approved, but which have not yet reached the stage of tenders.

The Concrete Institute

IN the course of his Presidential Address to the Concrete Institute, Mr. H. D. Searles-Wood, F.R.I.B.A., stated that in the Whitley Industrial Councils one saw vast possibilities for good, but he thought there should be strong efforts made towards practical procedure. He thought that the Concrete Institute should be represented on the Building Industrial Council and that they could give valuable assistance to its deliberations. They were still waiting for the R.I.B.A. amended form of contract, which was in turn awaiting the Institute of Builders' consideration. The National Federation of Building Trades Employers expected shortly to publish a national building code. All this proved that reconstruction would take place in the building trade as well as in other industries. There were many points in the existing form of contract that the building contractor wished to modify, and most of these differences of opinion arose on the lump sum form of contract in the R.I.B.A. contract. The lump sum contract was too rigid if the employer wanted to make alterations in the drawings. Contractors, except in small works, required the incorporation of bills of quantities to provide for adjusting the payment of work not shown on the drawings. A recent form of contract was the lump sum with schedule for extras.

The schedule contract, the Scottish form settled by Sir George Askwith for the Government, and which during the war had been largely used, transferred the risk of unforeseen accident and difficulties in the carrying out of the work from the contractors to the employer; at the same time the employer only paid for work which was actually done. In this form of contract every price in the schedule wanted careful consideration by the architect and a comparison of the totals sent in by the contractors was not a good basis when considering which tender to accept.

Another form of contract was the prime cost plus profit. When the profit to the contractor was a percentage profit on the whole cost of the work, he took no responsibility as regards economy, and the architect must assume certain responsibilities for the economic administration of the work. In "The Times" Engineering Supplement Mr. E. J. Rimmer gave the particular points to be emphasised, viz.:

1. That the contract should make the architect's approval of quotation for the purchase of material, rates of wages to be paid to the contractor's staff and the hire price for machinery and plant a condition precedent to payment of these charges.
2. That all payments of whatever kind, and particularly that of the men's wages, should be actually witnessed or proved beyond doubt by someone appointed by the architect on behalf of the employer.
3. That the duty of time-keeping should be assumed on behalf of the employer and not left to persons employed by the contractor.
4. That prime cost should be very clearly defined in the contract, and that the expenses incidental to the carrying out of the job should be either expressly included in or omitted from this definition.

These four points were important; they did not in any way impugn the honesty of the contractor, but were merely protection to the employer against the carelessness or dishonesty of anyone in the contractor's employ by which the contractor would benefit. Another important point was that

the employer should reserve the power through his architect of directing the administration of the job from beginning to end. In adopting this form the architect involved himself in responsibilities which he would not care to take upon himself. Lord Selwyn's Committee recommended the form of fixed profits, that was, where the contractor's profit was fixed at a lump sum instead of a percentage on the total cost, and he believed that this form was favourably received by the building trade.

The objections on the part of the profession to that form were:

(1) The control of the administration of the work was necessarily left in the hands of the contractor by reason of the provisions in his contract, that his profit was fixed and that a bonus would result to him from expeditious and economical results.

(2) The foregoing were the chief forms of contract now in vogue; and the point wherein they most closely affect the members of this Institute was the position that the architect or engineer occupied with regard to the contractor and employer.

The architect or engineer was employed as a professional man by the employer or building owner, and in the main acted on his behalf as agent; but under existing forms of contract the architect performed duties and was under obligations not only to the employer but to the contractor, (1) when he exercised the powers and carried out obligations as regards such matters as under the contract were left to his sole discretion, and (2) also in matters from which there was appeal to arbitration. In both cases (whether or not there be arbitration, in case of his decision being rejected) he was acting in a quasi-judicial capacity and must make up his mind and express his decision without partiality and with fairness to both parties.

As agent for his client the architect was required to use in the carrying out of his design a reasonable degree of care and skill. He did not guarantee that the structure which he designs and supervises shall be wholly satisfactory nor that he would anticipate all the difficulties of construction, but he must act up to the average standard of competent men in the circumstances in which he was placed. To some extent the degree of skill required of him would depend upon his pretensions; for if he claimed to be an expert in a particular form of construction, and by his claim to such competence induced the employer to entrust him with that class of work, there must be implied in the terms of his contract a claim of warranty that he had such skill. If, then, an architect or engineer was adjudged to be guilty of negligence or of lack of such skill as he was deemed to have warranted, the result would be that he would be not only unable to recover remuneration for his work, but might be liable to the employer for the full amount of the damage occasioned by his fault.

Another probable change in the practice of the profession was in the method of payment for services. The existing percentage basis for fees had often been objected to, it being considered (quite unjustifiably) that this method was not conducive to strict economy in the cost of the work, and that architects unscrupulously increased the cost of the work in order to swell the amount of their fees. As regards most architects, this was a cruel and baseless charge. In the vast majority of cases the architect's desire was

to get his clients' work done on the best terms possible. But it could not be denied that the percentage system certainly suggested a reason for remarks of that kind. In America they had a method of charging, known as the fee plus costs system of charges.

One of the most interesting reinforced concrete buildings recently carried out was the large dome over the Port Road Department of the new head building of the Port of London Authority. The inside diameter of the supporting walls was 112 ft. and the outside diameter of the dome proper was 110 ft. 6 in. The distance from the centroid of the main supporting ring to the centre of the top compression ring was about 31 ft. The supporting ring or dome was a double dome supporting a pendant light and was carried by sixteen ribs, which were open between the ribs and glazed and roofed with glazing. A travelling ladder was to be fixed on the outer glazing for cleaning purposes. The lower two-thirds of the dome was to be constructed in reinforced concrete with thirty-two internal ribs and sixteen external ribs, the shell being stepped in five steps and asphalted on the outer face. The total weight of the dome, including the bottom supporting ring, was estimated at 1,536 tons. The cubic feet of concrete was 22,000, equal to a length of 22 miles three and a half miles of 12 in. x 12 in. The calculated horizontal radial thrust at the foot of each of the sixteen main ribs was 22.35 tons, and of the sixteen intermediate ribs 14.82 tons, and the hoop tension in the supporting ring was 114 tons. The radial thrust could be roughly checked by the following simple formula:

$$Tr = \frac{\text{weight} \times \text{diameter}}{8 \times \text{rise} \times \text{number of ribs}} = 21.1 \text{ tons}$$

and the hoop tension in the main supporting ring could be checked by the following simple formula:

$$Th = \frac{\text{wt.} \times \text{circ.}}{150 \times \text{rise}} = 111 \text{ tons or } \frac{\text{wt} \times \text{d.}}{150 \times \text{rise}}$$

The dome was so perfectly proportioned by the architect, Mr. Edwin Cooper, F.R.I.B.A., that the eccentricity of the lines of thrust in the main ribs was practically negligible. These ribs were assumed as 18 in. deep the maximum eccentricity in the upper portion was 3 in., on the centre portion 1 in., and on the lower portion 2 in. Again, the horizontal thrusts at the intermediate rings or purlins, due to the main ribs, were also equal, being 22.35 tons at the main supporting ring, 22.98 tons at the lower purlin and 22.02 tons at the upper purlin; therefore the stresses in these two purlins due to the main ribs were practically equal. Broadly speaking, this was an admirable example of a dome, which from an architectural standpoint was perfectly proportioned, and from an engineering point of view was economically designed, because all stresses were reduced to a minimum and secondary stresses were eliminated. In fact, the moments due to eccentricity of thrusts were so small that sufficient steel had been provided to take up all the moments and the resistance of the concrete had been neglected. No wind or snow load was allowed in calculating the weights, because compared to the weight of the construction, such load was infinitesimal; in other words, a super-load of about 4,500 tons would be required to cause the dome to collapse.

TOWN DEVELOPMENT AND HOUSING.

St. Austell.

St. Austell, Devon, U.D.C., is to erect a number of concrete houses, direct labour to be employed.

Manchester.

The Public Health Committee of Manchester have decided to proceed as rapidly as possible with a garden suburb scheme.

Rawtenstall.

The Corporation have received sanction from the Ministry of Health to the general scheme for erecting 1,185 houses in the town.

Rhyl.

The Ministry of Health has held a public enquiry into the application of the Rhyl Town Council to borrow £25,000 to develop the promenade.

Leeds.

The Leeds Corporation Improvements Committee has provisionally accepted a private tender for 214 houses in the city at a cost of £155,000.

Grantham.

The Grantham housing scheme is to be proceeded with without delay. The whole scheme is for the erection of five hundred new men's dwellings.

Guisborough.

The Ministry of Health has sanctioned the application of the Guisborough R.D.C. for a loan with which to erect ten houses at a cost of £9,000.

Glasgow.

Subject to the approval of the Scottish Ministry of Health the committee recommend the acceptance of offers amounting in all to £18 for the provision of seventy-five houses.

Leamington.

Three working men have contracted to build thirty-four houses at Leamington at a cost of £30,563. Plans have been submitted to the Ministry of Health and have been commenced.

Feltham.

The London and South-Western Railway Company have decided to build a big goods station, and thirty miles of track are to be laid down. A large motive shed is also to be built, and a new suburb is to be erected for the next few years.

Atherstone.

To encourage the erection of houses by private enterprise, the Atherstone U.D.C. are under consideration a proposal to give free grants of land to persons desirous of building. This offer is in addition to the Government's promised subsidy of a hundred and fifty pounds a house. The Ministry of Health is to be asked to give the Council power to carry out the scheme.

Housing in Ireland.

A book of specimen plans of lay-outs of working-class dwellings has been prepared and issued by the Local Government Board for Ireland for the guidance of local authorities in erecting houses under the Housing of the Working Classes (Ireland) Acts, 1890 to 1919. Some of the designs shown were awarded prizes in the recent competition carried out by the Royal Institute of the Architects of Ireland for the Board; but other designs are included, which are also worthy of close attention. In a circular

No. 175/M/1919, issued with the book of designs, the Board state that the type of house must vary according to the requirements of the locality, and that it is far from their desire to enforce a rigid uniformity or to raise unnecessary obstacles to the solution of an admittedly difficult problem. The aim should be to secure buildings in which willing housewives may readily make pleasant homes. Local authorities are advised to consult representatives of the local trades councils and women's associations, before finally deciding what house-designs to adopt.

London Slum Areas.

It is estimated that 184,000 persons are living in London slum areas. Figures given at meetings of the Unhealthy Areas Committee of the Ministry of Health show that in the Tabard Street area the death-rate between 1904 and 1908 was 36.8, against an average of 14.9 for the rest of London. The Committee are to make a personal inspection of the slums.

London Slums to be Cleared Away.

The City Corporation has decided to improve the Hutchison Street area, which includes scores of houses in Middlesex Street, Hutchison Street, Ellison Street, Garden Place, Stoney Lane, and Seven Step Alley. The total estimated cost of the clearance is £139,188, of which about £78,000 would be recoverable from the sale of the land. No provision has been made for rehousing the 885 residents as the Corporation are already proceeding with the erection of 2,000 houses at Ilford and 208 tenements.

Scottish Housing.

An important housing scheme has been commenced by the District Committee of the Middle Ward of Lanarkshire. The District Committee propose to erect 5,000 houses within a period of three years, at a probable cost of £4,000,000. Should that number prove insufficient, it is stated that the Committee are prepared to erect a greater number of dwelling houses. A first instalment of 200 houses will be built at Viewpark, near Uddington, on a site lying to the east of Viewpark House, and situated between Edinburgh Road and the Old Edinburgh Road.

Bermondsey.

Bermondsey B.C. have referred to their Housing Committee a proposal that they shall acquire land and houses in Clark's Orchard and Prince's Street under the Housing of the Working Classes Act. The site covers about two acres, and includes forty-three houses, accommodating 462 persons. It has been bought by a firm of millers, who propose to demolish the houses in order to extend their works and build a glucose factory and a clubhouse for their employees.

Proposed Extensions at Billingsgate.

Plans are being considered by the City of London authorities for the extension and improvement of Billingsgate fish market. The improvements will include an extension of the river frontage, the widening of the approaches, and the provision of greater space inside the market by the construction of a mezzanine floor between the present ground floor and the basement. An ice-making plant is also to be installed. An arrangement is being negotiated with the authorities of the Custom House under which the Markets Committee propose to acquire the land on the eastern side of the market. The present buildings were opened in 1877.

NEWS ITEMS.

Hull.

£6,000 is to be spent on improvements at the schools during the next year.

Hospital for East Ham.

East Ham proposes to build a general hospital as a war memorial.

Paddington.

Paddington Infirmary is to be converted into a hospital for 600 patients.

Llandudno.

The Llandudno U.D.C. are about to improve their market hall at a cost of about £3,500.

Weston-super-Mare's War Memorial.

The Weston-super-Mare War Memorial scheme comprises an extension of the hospital and a monument or obelisk.

Dunblane.

Mr. Jas. Miller, A.R.S.A., has prepared plans for the war memorial at Dunblane. These are adopted, and a commencement will be made at once.

Henley-on-Thames War Memorial.

In memory of their son, who was killed in the war, Mr. and Mrs. J. C. Walker, of Henley-on-Thames, have presented a site for the Henley war memorial hospital.

New Factory for Yarmouth.

A large fish-curing factory is to be erected on the present racecourse at Great Yarmouth, and a new course is to be laid out on the North Denes.

Scottish War Memorials.

About £400 has been raised for the Renton War Memorial Fund, and £1,350 for the Vale of Leven War Memorial Fund.

Cottage Hospital for Newquay.

At Newquay, Cornwall, a cottage hospital is to be erected as a war memorial. A site has been promised. The estimated cost of the building is stated as £5,000, and that of maintenance about £500 per annum.

New Theatre for Glasgow.

A new company is to be formed to build a theatre on a site at the corner of Wellington Street and Waterloo Street, Glasgow. Sir John Burnet, who was responsible for the building of the Glasgow Alhambra, has prepared plans.

Cardiff.

A site in Queen Street, Cardiff, covering about half an acre, bought by the Bute Docks Building and Office Company, Ltd., is to be used for the erection of a block of business premises to be completed in about eighteen months' time.

Runcorn.

New tanning works are being established at Runcorn, and excellent progress is also being made with the erection of another tannery, bringing Runcorn's total big tanneries to six. The work of erecting the super-power electrical station for Mersey Ports Company, destined to supply a very big area, is proceeding rapidly.

The Architectural Association of Ireland.

Mr. Louis Giron recently delivered a lecture to the Architectural Association of Ireland, entitled "A Visit to Chester and District," in the course of which he described the principal buildings in Chester, Liverpool, Shrewsbury, and other towns visited by the members during a short stay in the Chester district last

summer. The paper was profusely illustrated with lantern views from photographs taken by the members. Mr. Giron, who has a happy knack of description and comment, expressed the view that on future occasions it would be better to limit the area to be covered, so as to give more time for detailed study.

Building Exhibition at Lyons.

In connection with the Lyons Fair, which is to be held during the first fortnight of March, 1920, the city of Lyons is organising an exhibition-competition for machines, materials, and methods of fabrication connected with the building industries. Practical comparative experiments in fabrication will take place during the show, and prizes will be distributed.

Death of Mr. J. H. Pentland.

The death is announced of Mr. John Howard Pentland, at Dublin. Mr. Pentland retired from his position as architect in the Board of Works Department five years ago. He designed the Memorial Arch in St. Stephen's Green, and was responsible for the remodelling of the arrangements of the General Post Office, which had only been just completed when the office was destroyed during the Easter week rebellion.

Luton Architectural Society.

At Luton an architectural society has been formed to protect local practice and to encourage the educational interests of assistants and students. Mr. Basil Deacon, F.R.I.B.A., has been elected chairman, Mr. F. J. Manning, hon. treasurer, and Mr. E. E. Geeves, hon. secretary. A sub-committee has been appointed to draw up a scheme of constitution based on that of the various societies affiliated to the R.I.B.A. Communications should be directed to the Hon. Secretary, Castle Street Chambers, Luton.

Royal Academy School, Edinburgh.

In a lecture at the Royal Academy School Professor Laurie dealt with the subject of building materials. He pointed out that the investigation of new building materials had to go side by side with the investigation of new methods of construction. Many people feared that these new materials and new methods of construction would result in bald and ugly buildings, but he had no doubt that as the new technique developed new possibilities of artistic construction would reveal themselves, and that we were at the beginning of a new epoch in architecture of the greatest interest.

Fifteenth-century English Altar-piece.

A complete English alabaster altar-piece, dating from the middle, or second half, of the fifteenth century, was acquired by the Victoria and Albert Museum at the sale of Lord Swansea's collection at Singleton Abbey. Altar-pieces were made in considerable quantities from alabaster quarried at Chellaston, Derbyshire, and much of the work was done at Nottingham. Alabaster altar-pieces appear to have been regular articles of export, and a certain number are preserved complete in France, Italy, and elsewhere. Although many separate panels exist in English public and private collections, no other complete altar-piece, as far as is known, has been preserved in this country. The altar-piece is in triptych form, with its original wood frame painted and decorated with gilt gesso. The lower border bears inscriptions describing the subjects of the panels.

These are five in number, and represent the Annunciation, the Nativity, the Holy Trinity, the Ascension of Christ, and the Assumption of the Virgin. At the ends of the wings are figures of St. John the Baptist and St. John the Evangelist. The colouring and gilding of the alabaster has been well preserved.

WEEKLY HOUSING REPORT.

The return issued weekly by the Ministry of Health states:

New schemes submitted to the Ministry during the week ended November 29 numbered 309, bringing the total number of schemes submitted by local authorities and public utility societies to 7,150, comprising about 55,000 acres. The schemes approved now number 2,664, comprising about 26,000 acres. Most of the new schemes are for rural districts, the Haverfordwest Rural District Council promoting no fewer than eighty-six small site schemes. Fifty-eight lay-out schemes were submitted and sixty-nine approved during the week, bringing the total number of lay-outs submitted to 1,697, and the number approved to 974. House plans representing 2,553 were submitted, and plans for 2,631 houses were approved during the week. The total number of houses represented in the plans submitted is 67,939, and in the plans approved 53,268. Tenders for 14,561 houses have been submitted, and approval given for 11,668 houses. By the end of November seventy-five local authorities had made application for huts and other structures to serve for housing accommodation. Excluding cases in which the number of huts required is not stated, the total number of huts applied for approaches 2,100. The number of separate tenements into which the huts and other buildings can be converted varies largely. Some of the huts suffice for one family only, others for two or three families, and in one case it is estimated that sixty-eight tenements can be provided out of a single hostel.

Details of the schemes of local authorities dealt with during the week are as follows:

Building Sites.

Schemes Submitted.—The number received from ninety-eight local authorities was 308, comprising 654 acres, and bringing the total number of schemes promoted by local authorities to 7,071, covering approximately 52,500 acres.

Schemes Approved.—The number of schemes approved was ninety-three, bringing the total number approved to 2,639, comprising about 25,400 acres.

Lay-outs.

Schemes Submitted.—Fifty-seven schemes were submitted by thirty-six local authorities, bringing the total number of schemes submitted to 1,657.

Schemes Approved.—Sixty-six schemes, promoted by thirty-six local authorities, were approved, bringing the total number of schemes approved to 951.

House Plans.

Schemes Submitted.—Schemes representing upwards of 2,100 houses were submitted by fifty-two local authorities. The total number of schemes submitted represent some 65,400 houses.

Schemes Approved.—Schemes representing 2,396 houses were approved. The total number of schemes approved represent 52,214 houses.

L.C.C. AND WOODEN HOUSES

The Housing of the Working Classes Committee have recommended that dwellings of wood should be erected by the London County Council. The cost of maintenance, it is pointed out, including periodical painting and creosoting, will be higher than in the case of a brick building. The greater risk of fire will be reflected in higher insurance rates, and increased expenditure per house will be involved in lay-out and road construction allow a greater distance between houses. The danger of dry rot must be considered. Construction of this character is less likely to withstand wear and tear and ill usage and forms a harbourage for rats and other vermin. The period for the repayment of loans for wooden buildings is only forty years, as against sixty years for brick buildings. The Committee point out that the Minister of Health has approved a design for a one-storey, four-room bungalow, timber-framed, estimated to cost £600, exclusive of water supply, lighting, drains, etc. These items, they say, would cost about £80, making a total estimate cost of £680. From tenders recently obtained it was found that the price of a brick cottage on the Old Oak estate, with similar accommodation, including the provision of hot and cold water supply, drainage, fencing, and paths, would be £582 10. The number of wooden bungalows to the acre would be about nine, whereas a large number of brick cottages of a comparable type could be provided to the acre. The cost of lay-out and general development of land for wooden buildings was thereby proportionately increased. The Committee state that it is clear that on initial cost alone the wooden bungalow type under existing conditions is dearer than the brick cottage with equivalent accommodation. The Committee are considering the advisability of erecting concrete houses in parts of those estates where the requisite material can be obtained locally or on the site.

OUR SMALL ADVERTISEMENTS

The attention of readers is directed to the small advertisements page in this issue (xxvi.), which contains a number of interesting announcements.

Quantity surveyors and architectural assistants are wanted by Mr. H. T. Sand Architect, Stafford.

An architectural assistant is required by Mr. Bailey Deeping, 12, Gluman Gate, Chesterfield.

An architect is required to carry out reinforced concrete and steel building the East.

There is a vacancy for a junior assistant in the office of an architect in a Midland provincial town.

Birmingham Civic Society invite design for a gold medal.

Particulars are given of contracts for picture-house at Skegness, and for housing schemes at Banbury and Chester Street.

On behalf of the Board of Trade an auction sale of American hardwoods will be held in Liverpool by Messrs. Farnworth and Jardine on Wednesday, December 11.

Silex stone lining, dressed and undressed, heliopes, and flint pebbles are offered for sale by the Aerial Candy Co. Ltd., Tramway Avenue, Broadway, Stratford, E.18.

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ELECTRICAL NOTES.

Hydro-Electric Power in New Zealand.

The Special Industries Committee, which has been touring New Zealand, place the Dominion scheme for the development of hydro-electric power in the forefront of their proposals, as they are more than convinced that the carrying out of the scheme means increased production in both primary and secondary industries. They are firmly of opinion that the harnessing of the great sources of water-power is a national duty, to be undertaken by the Government for the benefit of the whole community, and carried out as a national enterprise. Local authorities are, however, proposing to develop schemes of their own—doubtless due to the length of time they have been led to believe will elapse before power from the national undertaking will be available in their respective districts—but the Committee urge that the Government should at once carry out a comprehensive scheme for the supply of electrical energy to the whole country, and simultaneously in both islands. The Government should supply the current in bulk, leaving the distribution to the local authorities.

House Construction and Electricity Supply.

Particulars have been received by the Electrical Development Association of a number of large housing schemes in which very comprehensive proposals for the use of electricity for lighting, heating, and cooking are included. In some of these provision is also made for a common supply of hot water from a power station. In a circular the Association state that there appears to be a case for constructing working-class houses without fire-places except in the main living and cooking rooms. These may be provided with stoves adapted to consume coal, coke, and refuse, and combined with the hot water system of the house. If such appliances are installed and associated with electric cooking ranges, whilst some of the other rooms are permanently fitted with electric heating, the remainder being equipped with electric sockets so that portable fires can be used in them, the result is a dwelling with many labour-saving features.

The Committee report that great progress has been made in the methods of wiring houses for electricity supply, and systems are in use at present which reduce the cost and entail no interference with the work of the builder. Electric fires and cooking ranges are now being manufactured in immense quantities in this country. During the war nearly 20,000 pieces of electric cooking and heating apparatus were made for naval and military use, and in addition electric cooking equipment for service and munition work provided for the daily catering requirements of some 400,000 persons. The firms engaged on this work had now turned their experience to the production of electrical apparatus for the home.

Electricity (Supply) Bill.

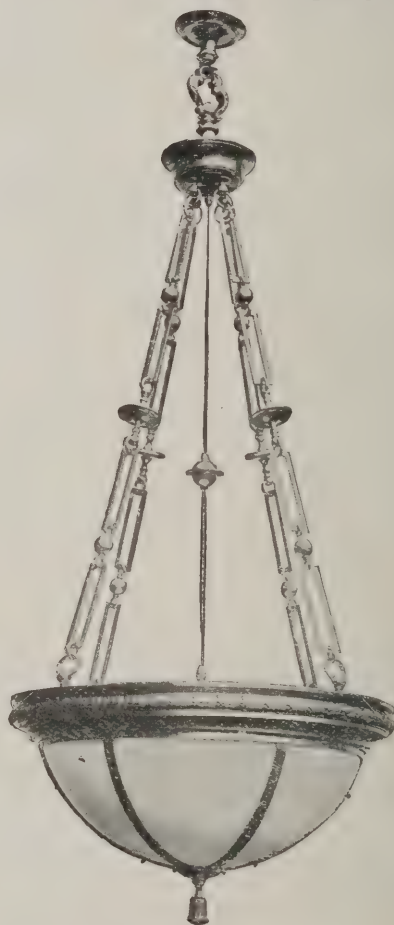
In the House of Lords, the Lord Chancellor, in moving the second reading of the Electricity (Supply) Bill, said that in the past in electrical lighting matters there had been an extraordinary and most inconvenient variety of pressures and frequencies, which had prevented those concerned from acting together, and had enormously increased charges.

Lord Downham estimated that the cost of putting up each station would be £6,000,000. Therefore the sixteen stations would cost £96,000,000. Add to this another £50,000,000 which would have to be found for equipping the stations, putting up main transmission lines, etc.; that gave a total of nearly £150,000,000. Then there were the maintenance charges. Coal was double the pre-war price; wages were also double, and rates at the present rate would, before long, be double also. If the present undertakers were treated justly he believed they would be willing to come together to provide schemes by which smaller stations might be scrapped and larger stations provided for combined purposes.

Lord Moulton maintained that the policy ought to have been to postpone these grandiose schemes until the normal industry of the country had received what it stood in need of. To select an industry not specially suitable for Government handling for nationalisation seemed to be a thing that required more defence than it had received. Why should they supply big towns with the absolute necessities of light and heat by means of mains hundreds and hundreds of miles long, all of which were subject to destruction by a mere individual fanatic or in pursuance of a policy of hostility to society? He felt that the policy upon which it was based was a retrograde and injurious step.

Viscount Midleton expressed the hope that the Government, before proceeding farther with the Bill, would send it to a Select Committee. He moved the adjournment of the debate.

The Lord Chancellor accepted the motion.

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Architects' Journal
Friday, Dec. 17, 1919

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Volume L. No. 1302

THE ARCHITECTS' JOURNAL

FOR

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Dust and Ashes

Technical and daily Press have for some time past been full of articles, diffident or swash-buckling as the case may be, dealing with suggestions for reducing the present cost of building. The amount of misinformation that is being given to the public, for the moment, violently interested in such matters, is startling. Wood is the principal material which is freely flung at the heads of authorities responsible for the State Housing schemes, and one can only wonder at the various writers' enthusiasm for this material on grounds that it is the most suitable one for the construction of sticks, "any old one" of which is strong enough to beat the dog with." Such a large number of people have suddenly discovered wood for no other reason than that they have never in their lives, recently, given the matter a moment's thought; and of them, no doubt excellent meaning and value to people, seem to consider that their newly-entertained thoughts must be resultant in a new, if not better, than certainly earth.

Wood, however, is not the only suggestion thrown out to get over the difficulty. Many other strange materials of construction are used (in addition to the stick) as missiles to hurl at, and help in the defeat of, the wretched wight who is trying to build houses. To those of experience the vast majority of suggestions put forward are for general purposes. There is hardly an architectural society in the United Kingdom which has not discussed and concluded practically all of the proposed methods which revolutionise building. Almost invariably it has concluded that most of the uncommon materials suggested have only a value under purely local, or special, conditions.

Wood, our old friend, may still be regarded as the rival to the older and more established media of brick or stone, and the less common but still well and tried concrete. It would be idle, nor is it the object of this writer, to deny that a wooden house can be built more cheaply than can a brick or stone one. If, however, we analyse the actual saving it comes down to the difference in cost between wood walling and, for the sake of argument, brick walling. Added to this is the additional saving in foundations, made possible by the lighter building. All other parts of the house—flooring, glazing, plumbing, etc.—must be treated as if the cost were equal in both types of house. For anyone who is willing to take the trouble to price the walling of ordinary timber construction and the walling of say nine-inch hollow brick or concrete blocks, and find out for himself that, taking an average of the cost of both materials in, say, a dozen different districts, the difference in cost between the two will only amount to about six per cent. on the total cost of the building. On the debit side of the account one has got to allow for extra cost of maintenance and for more depreciation and slight extra insurance. These

are practical matters. Sentimentally one must consider the greater difficulty in making a wooden building vermin proof, and the danger of damp and injury if creepers are allowed to grow on wooden walls. There are few indeed of us who would care to see new houses, for ever bare of shrubs and creepers, set down here and set down there to form the rural homes in English village and countryside. The wooden or pisé house most certainly has a definite value in the general scheme of things; but to regard it as the means of arriving at a solution of the existing problem is merely blinding oneself to reality.

The same general line of argument is applicable to most of the other materials which are being daily put forward. It may be admitted that under unusual conditions efficiency and economy may be obtained without loss of good appearance by the use of chalk, pisé de terre, etc.; but it must be borne in mind that in most areas the possibilities of these unusual materials are already well known, and moreover where they have proved themselves of value they have survived an earlier criticism and become actualities in the local life, indigenous and not exotic. Further, it must be remembered that there has always been a large number of critical people who have been experimenting themselves and watching the experiments of others with all kinds of materials, and moreover there were hosts of builders eager and ready to jump at any such should it prove successful and economical. That brick, stone, and concrete practically hold the field speaks for itself as evidence of the relative values of these and their less-known competitors.

There are numerous houses built of mud in the west of Ireland which are up to two hundred years old. No one, however, has yet come forward and suggested that mud is the solution of the housing question. The use of mud has its advantages in certain districts, but to build a mud house in the Cotswold district would be an act which, if committed, one would certainly, and in all probability correctly, ascribe to being that of a lunatic. The attitude, indeed, of many of the critics and of those who have made so many of the various suggestions that have appeared in the Press is not easy to comprehend. Let us experiment by all means, and experiment with generosity and open minds, but until time has given some working data as the result of experiment let us adhere to the substance and not cast it aside for the shadow. After all, shadows are but poor protection against an English winter.

Another suggestion that is made by many of the well-meaning critics is that the present high prices are not genuine ones, and that building could be carried out more cheaply if contractors were willing to work for reasonable profits. In other words this amounts to the charge that there is a huge ring, and contractors are determined on forcing prices up. This charge is without foundation in fact, and no person who has any

inside knowledge of prices which, after all, are based on the value of labour and material, would support this view for a moment. It is true that in many cases the smaller builders are so full of jobbing work, having an accumulation of five years to deal with, that they are not keen on tendering for strictly controlled work. This argument, however, is not applicable to the large contractors, many of whom are exceedingly anxious and willing to tender for the large housing schemes in their districts. It is a fact that in some cases where local conditions have caused high prices that the tendency has been of the keenest description, and a scrutiny of the figures in the quantities shows that the tender figure is submitted with only a very small percentage added for contractor's profit. Actually, the ordinary contractor has been hard hit by the war, and is as anxious as the rest of us to settle down to normal trade, and it is absurd to suggest otherwise. He is faced, like the rest of us, with many difficulties, including an uncertain quantity and quality of labour, and a difficulty in obtaining delivery of material. He is being hit by the aftermath of the war, and is unwilling to risk too much,

and is, very rightly, going slowly until industrial affairs assume a greater stability. That is the long short of his position. Now how would the unusual materials—wood, pisé, etc., help this situation? Ninety per cent. of contractors would be out altogether, as they would be tendering for work of a totally unfamiliar nature, and pricing would be a matter of very great difficulty.

There is at the present moment a shortage of painters and joiners, many of whom are still serving H.M. Forces. If a large number of wooden houses were put in hand immediately there would obviously be a sudden demand for men of these trades, which could not be met. The contractor's difficulty, therefore, would be threefold—shortage of material, shortage of the special type of labour required, and preparation of tenders for work of an unfamiliar nature. We commend these facts to the notice of those who are urging the use of unusual material, and would point out to them that the question of labour alone is sufficient to damn any such scheme before it has attained life. Reception is easy but delivery difficult. P. J.

Notes and Comments

The New Housing Bill.

THE debate on the Housing (Additional Powers) Bill, in the House of Commons on December 8, brought out nothing that was absolutely new, the particulars of the sliding-scale subsidy having been already made public. In the speech introducing the proposal to grant subsidies of £100 to £160, according to the size of the house finished within a given time—virtually fifteen months—Dr. Addison made the somewhat disquieting observation that "the private builder could build more cheaply than the local authority, one reason being that he had not to meet the same precise requirements as to detailed specifications." Since this explanation is open to very serious misconstruction, it may be misunderstood (we are sure) as implying that the private builder is exempt from the restrictions imposed on the local authority. In reality he is, it may be supposed, free merely from the fussiness and circumlocution that infest officialdom. If Dr. Addison meant that, he offends Bumbledom, but there is none shall gainsay him; but the danger is that his words may be taken as an incitement (certainly not intentional) to indifferent building. What Dr. Addison should have made more clear was that the private builder, knowing his business, and allowed reasonable freedom in its exercise, can build more economically than the hirelings of a local authority, he proceeding by an innocuous sort of direct action, they by circumlocution. Further, it is discouraging to note the easy acceptance of the proposal to put up twenty houses to the acre in urban districts; for which congestion the only excuse would be, we suppose, that it cannot be helped.

All Night Sitting on the New Bill.

It was anticipated that the Housing (Additional Powers) Bill would have a rather stormy time in Committee, but the happily rare event of an all-night sitting was not foreseen. But the unexpected happened, and the Bill was not reported to the House as amended until twenty minutes past six in the morning. Mr. C. Edwards began the ancient pastime of "buffet the Bill" by moving an amendment that struck at the heart of it. He proposed that subsidies should not be granted to private persons, but only to local authorities or public utility societies. He suffered defeat by 129 to 20. Mr. Lorden's amendment providing that the subsidies should be available for self-contained flats was carried by 119 to 25, in spite of the protest by Major Barnes that the Government, in committing themselves on this point, were going to subsidise the very worst type of houses. Captain Ormesby Gore's amendment moving that the houses

should comply with the conditions prescribed in Section 1 of the Housing and Town Planning Act, 1919, was drawn in favour of Dr. Addison's—that the houses should "comply with the conditions prescribed by the Minister and be in accordance with the conditions as to the number of houses per acre, and the standard of structural stability and sanitation approved by the Minister in the case of any scheme carried out by the local authority under Section I. of the Housing and Town Planning Act, 1919." This clause will not apply automatically to the administrative county of London; for on the motion of Sir H. Harris it was agreed that the Minister should prescribe anything contrary to the by-laws in force in the county except after consultation with the L.C.C. But to prevent a Government Minister having his own way in spite of the County Council? Finally, Mr. Dr. Addison proposed an amendment which took the sting out of Clause V. by giving an aggrieved person the right of appeal from a local authority's order to stop building operations deemed likely to divert labour and material from housing. This being in effect all that happened in Committee, the Bill came through the ordeal of a night sitting without being visibly the worse for its remarkable adventure. In the subsequent debate on the third reading, on Friday last, opposition was chiefly levelled against the subsidies, but, nevertheless, the Bill went through the Commons. When it becomes an Act, its working will be narrowly watched, for its enemies are many, alert, and powerful.

Unity in the R.I.B.A.

In an ably and temperately written letter which was reproduced in our correspondence columns, attention was directed to certain matters that, it is urged, do not promote unity in the R.I.B.A. It is contended that the controversy raging round the creation of the Licentiate class, the Registration Bill, and the absorption of the Society of Architects, the admission of Licentiate Fellowship class, the proposed new Charter, and last, not least, the suspension of portions of by-laws to do with together with the admission of certain candidates to the Associateship class without the necessary qualifying examination, all indicate the lack of unity which is fatal if the corporate body is to be a real influence for the advancement of Civil architecture." This statement appears, on examination, to be more specious than true. Controversy does not necessarily imply lack of unity, but, provided it does not "rage," is to be regarded as a sign of wholesome mental vigour and keen interest in a question of the degree of intensity with which an

ested, a question of object or motive, of tone or
Our correspondent would not have the R.I.B.A.
t, somnolent, inert body, nor would he like to see
Conduit Street inviting odious comparisons with
brook. If in an association like this there were no
or exchange of views, sometimes developing into
differences of opinion, vigorously expressed, the
ers would not only lose interest in it, but would
ercise in the art of elocution. The papers are read
enough as it is. Unity is quite compatible with
nce of opinion; but while a breeze clears the
phere, a hurricane might tear the roof off: which
be lack of unity with a vengeance.

the General Advancement of Civil Architecture."

correspondent's opening paragraph is not easy to
stand. He sees a paradox in exhortation to unity
he case of a society the members of which have
ated together 'for the general advancement of civil
ecture.'" Also, he confuses the issue. For the
ation "to pull together and show a united front"—
eration difficult to envisage—is not primarily
ssed to the members of one society, although surely
is nothing either paradoxical or unusual in exhort-
believers to stand steadfast in the faith. It is meet to
nber and counteract the wavering and wobbling of
aker brethren. Truly, then, it is sometimes neces-
o exhort those rowing in the same boat to pull
er; but the settlement of these little domestic jars
easy task compared with that of inducing the society
ie up with the Institute. That is the unity that is
r to give the profession its full strength and rightful
r. A condition precedent to it is certainly that
unity to which our correspondent refers. Serious
stic dissensions in either of the two houses might
tly prevent the union of the two organisations, and
aste and weakness consequent on undivided forces
be further protracted.

Abuse of the Ballot.

quite fair to say, as our correspondent does, that
we have the spectacle of a Council circumventing
expressed opinion of the majority by means of a
el meeting"? What opinion, and what majority?
writer means that the Council, naturally ashamed
shabby action of some of its members in demand-
ballot with the deliberate object of blackballing
e candidates, has promptly set its foot on the abuse,
s chosen a very disingenuous form of words. If,
ver, he refers to some other incident, his readers are
ed to say that, if he wanted to be clearly understood,
uld have made his statement more explicit and less
n insidious misrepresentation of the facts. Equally
ous, at first sight, yet no whit more convincing on
ination, is the contention that "the arguments which
resident uses for those 'whose war services entitle
rt to every consideration' applies equally to Associates
enlisted." A fallacious comparison. The President's
gents referring to the lame dog to be helped over the
cannot be equally applied to the agile creature who
eapt it. Certainly the Associates who also served
erve every consideration," but certainly very few of
would wish it to take the form of excluding from
rofession, by blackball or otherwise, those whose
e of qualifying in the regular way was ruined by the
They would not be so mean as to stand upon their
rights, where the moral obligation prompts every
ous-minded man to make ungrudgingly any slight
ice involved in lining up with men who in most cases
l have qualified for this distinction if they had not
robbed of the opportunity by a cruel intervention.
what, after all, is the sacrifice asked of the black-
s? That is a question that they would hardly
to answer in definite terms. Hence, perhaps, the
ly allusive style or our correspondent's protest,
may be a plea for unity, but wears a very different
t.

The Site of the Cenotaph.

It is not yet certain whether the Cenotaph will be
re-erected on its present site in Whitehall, or whether
the permanent structure will be put up in Palace Yard.
When, in the House of Commons, on December 9, the
question was raised on the submission of the estimate of
£5,000 for the work. Mr. Baldwin, Joint Financial Secre-
tary to the Treasury, stated that this sum was named on
the supposition that the present site would be retained.
Westminster City Council, however, consider that the
present site is dangerous, and the police authorities sup-
port them in this view. On the other hand, it is
undeniable that the alternative site, in Palace Yard, is
unsuitable because the Gothic Parliament buildings would
clash with its style and dwarf its dimensions. These
disadvantages would be less conspicuous if the Cenotaph
were put up in the Terrace gardens, where Rodin's
"Burghers of Calais" has been placed. Sir Edwin
Lutyens (who, by the way, gets nothing out of it with the
slight exception of immortality) will, it may be hoped,
revise his design by slightly modifying the proportions,
but not otherwise.

Bentley and Westminster Cathedral.

In the biography of John Francis Bentley—for its
chief interest is biographical, although the title of the
book is "Westminster Cathedral and its Architect," Mrs.
Winefride de l'Hopital having inherited abundantly
of her father's extreme modesty—there is much
that is depressing, but there is one item that atones
gloriously for the petty annoyances that, in common with
all great architects, Bentley had to suffer while his great
work was in progress; or, worse still, when it was held
up. It is surely very gratifying to learn that Cardinal
Vaughan, perplexed by the choice of schemes placed
before him by about a dozen architects, thought that to
hold a competition would "satisfy the many rival
claimants while giving the best man the supreme
chance." That is not always nor often the effect of com-
petitions; but let that pass. The Cardinal abandoned
this intention, however, on hearing that Bentley, who
"had not lifted a finger on his own behalf," refused to
compete. The Cardinal then consulted a number of
architects, who all declared for Bentley; and when the
advice was taken, the Cardinal said to Bentley, "You
are not to thank me; it is your fellow architects you are
to thank." Is not that a splendid example of "unity in
the profession"? Architects always rise nobly to great
occasions, and this is but one instance out of multitudes
of putting art before interest. Nevertheless, we
welcome it.

Mr. Eric Gill's Sculptures.

Mrs. de l'Hopital's book raises again the controversy
about Mr. Eric Gill's sculptures in the cathedral. A critic
of the volume quotes the author's statement that marble
frames were originally provided for Stations of the Cross
to be executed in opus sectile. Mrs. de l'Hopital says
that the frames were "torn down and replaced by mould-
ings more in keeping with the strangely crude sculp-
tured Stations which have taken the place of the opus
sectile pictures intended for this position." This
phraseology is rather a departure from the gentleness
and restraint, the exquisite delicacy, that pervade the
book, and probably the author may see fit to soften its
asperity in revising her fine book. Whatever may be
alleged against Mr. Gill's sculptures of the Stations, they
are certainly not crude. They are, indeed, the perfec-
tion of fine workmanship, and are conceived in the very
spirit of the building. Bentley, we venture to say, would
have admired them intensely if he had lived to see them,
and would, we imagine, have preferred them to the opus
sectile pictures that he had proposed for the position.
On this latter point, however, one cannot feel quite con-
fident; for Bentley was very tenacious of his own artistic
conceptions, and that is why, alas! like sundry other
great architects, he allowed himself to be worried to
death.

Architectural Causerie

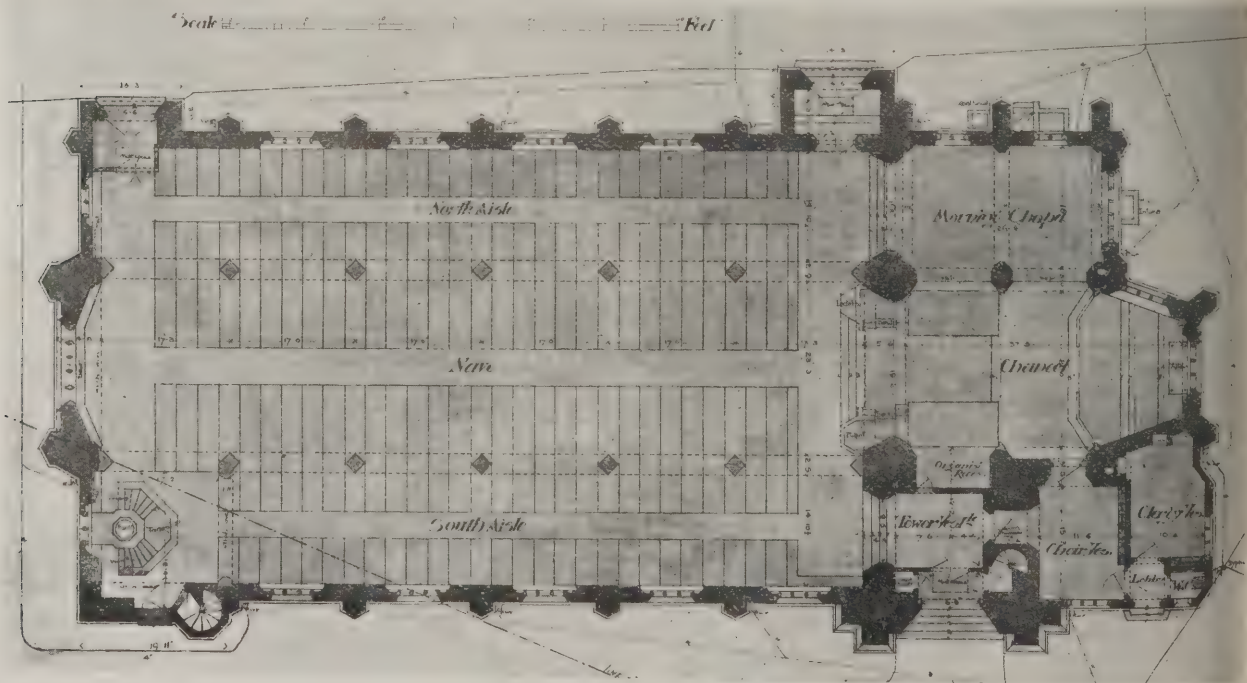
WERE it not innate in me to finish every task undertaken I should allow my lassitude to overcome my better judgment and postpone my written account of the oddities of street nomenclature; for not only do I find it difficult, so long after the event, to recall the conversation of weeks ago, but I find some of the streets I have heard of no longer bear their original names. I will, however, accede to the earnest request of an architect friend who practises in the distant north and pick up the matter where I left it. In my conversation with my friend I have reason to believe that we both concluded the name Ivy Lane to have obtained its title from the ivy which previous to the Great Fire ornamented the fronts of the houses occupied by the prebends of St. Paul's. The houses being destroyed by the fire, the lane was rebuilt in brick, and remained without recognition until the formation of a literary club, of which Dr. Johnson was a member, at a house called Dolby's.

Henry Jermyn, Earl of St. Albans, gave his name to Jermyn Street and St. Albans Street. The Earl had a house at the top of Jermyn Street at the time it was conjectured that he had privately married the Queen-Dowager Henrietta Maria. London House Yard derives its name from the town house of the Bishop of London being situated there. This house suffered the fate of several other notable buildings in 1666. Afterwards a house called Petre House, Aldersgate Street, was rented for the Bishop, and eventually obtained the title of "London House." The present London House is in St. James's Square. Lombard Street takes its name from the Lombards, the usurers of Edward the Third's reign, who displayed the golden globes of Lombardy as their sign manual. More direct is the derivation of Leadenhall Market. There was a building in this street with a flat leaded roof, used as a warehouse for the sale of leather, as well as a vantage place for those who ran the Colchester baize-hall, the wool warehouse, and the wool-hall. Labour-in-Vain Hill, formerly Old Fish Street Hill, was so called from the steep incline.

And so we come to letter M, beginning with Miles's

Lane, or, more correctly, St. Michael's Lane, taken from the church of St. Michael's, Crooked Lane. In this church was buried Sir William Walworth, the slayer of Wat Tyler, in Smithfield. It is recorded that Sir Walworth bequeathed all his lands and tenements to this church to find five meet chaplains. Walter Warden, the prior of the famous Boar's Head Tavern, likewise bequeathed that tenement to the same church, towards the finding of one chaplain. Formerly there existed in the Borough a place called the Maze, which was so named from the maze of the Abbot of Battle having a wonderful garden there. The chief attraction of which were its fanciful windings. Mews was the name given to the royal stables that stood at Charing Cross, practically on the site of Trafalgar Square. Mews is a term used in falconry, and here in former days the King's falcons were kept. At the time of Richard II. Henry the Eighth found it convenient to stable his horses at the place, and from that day the term mews has been applied to almost every range of stabling in London.

May Fair commemorates the fair held on the site of the Fair Chapel, on the first days of May, until the year 1790 and on the spot called Shepherds' Market. In the time of Addison, the place having become notorious, was partially suppressed by the magistrates. Now it is the most sought-after address in London, and many of the nouveau riche imagine themselves to be in the first class if they can indite their letters from this district. Minchins Lane, originally called Minchun Lane, on account of its having belonged to the Minchuns, or nuns of St. Helen's, Bishopsgate Street, is now a place of offices. The origin of Moor Fields, so called since the end of the fifteenth century, is not difficult to trace. The land here was open moor and full of swamps, impassable except by the special causeways, a state of things endured until the year of the Guido Faux's treason. Monkwell Street took its name from a neighbouring church, called St. Olave de Moorwell. The site of the church, which suffered destruction in the Fire, and was afterwards looked by Sir Christopher in his labour of rebuilding



PLAN OF THE LATIMER MEMORIAL CHURCH, BIRMINGHAM.



THE LATIMER MEMORIAL CHURCH, BIRMINGHAM. W. H. BIDLAKE, F.R.I.B.A., ARCHITECT.

became the burial-place. For a long time the meeting-place in Windsor Court, a turning out of this street, by the worthy Doolittle, was the first dissenting place of worship started in London. In this street Inigo Jones stood to admire the fair proportions of Barber's Hall, much as Palladio stopped to congratulate him when he looked upon his work at Vicenza. The street takes its title from an abbey of nuns of the order of Clare, who had to evacuate their domicile in 1539 on the command of King Henry. And so we leave them for a spell and journey to Westminster, making for the north bank of the Thames, a place so near a mill having formerly stood on the site of a house, called Millbank House, rebuilt at a later date by the Grosvenors. At this point was the ancient church of St. Mary, between this house and the church of St. Dunstons, connecting Watling Street from Dover to the north arm along the Edgware Road, of which more

Barge Yard was situated in Bucklersbury, which at times was open thus far, and barges were towed up to it. Stowe must often have seen the sign of the Barge on the inn near by. Old Change was the Exchange, a mint in the time of Henry III. On the other hand, Old Jewry takes its name from the Grand Synagogue, which stood here until the expulsion of the Jews from England. Paternoster Row and Ave Maria were so called from the stationers, or text writers, who kept shops there, and who wrote and sold all sorts of books in use, namely, A B C, with the Pater Noster, Creed, Graces, etc. There also lived the turners who made crosses for the Catholics, called the Paternoster makers. I imagine these streets to have derived their names from the religious processions making their way to High Church, St. Paul's, and chanting Paternosters and Aves as they marched to Amen Corner. The most reliable evidence is that afforded by the character of the present street. Of the origin of Piccadilly many conflicting ideas are current. Some say the street takes its name from a hill, others from the fashion of peaked beards. There is evidence that a tailor who invented new ruffs in the time of King James the First built Piccadilla Hall where Sackville Street now stands; no wonder that without a lamp standard is popular among the people to this day. Petty France, near to Broad Street, was another place of the same name in Westminster, and were favourite haunts of French Protestants. At one time the proper appellation of both streets was Petit France. And while we are minding our heads, let us look after our Q's, mention must be made of Pudding Lane, anciently termed Rotherlane, or Rose Lane, from a sign of the Red Rose. It took its later name from association with the butchers of Cheap, who placed here their scalding houses from whence the puddings and offal were put into boats to be deposited in the Thames. The pudding was certainly well cooked on that cool September morning when Pepys was called at three to see the fire raging on the back-side of Marke Lane." The Poultry is so named from the fact of the old market for the sale of fowls being on this site.

There is only one Q needing care, although there are Queen Streets, and at least one Queen's Crescent, a great assemblage of bricks, tiles, and glass. I select Queenhithe. This hithe, or wharf, was formerly named Edreds Hide. It was a princely gift of Stephen's to William de Ypres, who bestowed it on the convent of the Holy Trinity Without, Aldgate. In the reign of Henry III. gained possession of it, and ordered all ships belonging to the Cinque Ports to bring their corn to this wharf. Perhaps there is some truth in the assertion that the tolls so gathered became part of the king's pin-money. Many a good sailorman who came from the Thames Estuary from the Nore to London

Bridge must have inwardly raged at this regulation; perhaps the sailors gave the wharf its title of Queenhithe. Rood Lane, from Little Tower Street into Fenchurch Street, was so called on account of a rood, or cross, being placed in the churchyard, while the church was rebuilding, in order to gather in offerings of money from all true Catholics—a common method of raising money for religious purposes in mediæval times. Red Lion Court is so named after the figure of a great lion, of timber, at a gate leading into a large court, "where there are divers fair and large shops furnished with broad cloths and other draperies." Red Cross and White Cross Streets derive their names from there having been crosses near by. The red cross stood at the north end of the street so named, near to the pump.

St. Mildred's Court was originally called Scalding Alley, for there the fowls were scalded prior to being offered for sale in the Poultry. Silver Street, from Wood Street, Cheapside, was so named from its being the residence of silversmiths. Shoreditch, a continuation of Bishopsgate Street Without, has been usually considered to have derived its name from the husband of the unfortunate Jane Shore. A more likely theory is that Sir John Sordich, a man of legal ability in the confidence of Edward III., gave the district its name. Henry the Eighth, as a mark of favour, during a shooting match at Windsor, named one Barlow, a native of Shoreditch, Duke of Shoreditch on the spot—a title retained by the Captain of the London Archers for years after. Soho Square was originally named Monmouth Square; but after the execution of Monmouth it was called Soho, this being the watchword at the unfortunate battle of Sedgemoor, in the West of England. Southwark takes its name, according to Pennant, from Suthwerke, or the Southwork, in allusion to some fortifications south of the capital. St. Nicholas Cole Abbey, according to Stowe, was named Cold Bay, being, like Cold Harbour, exposed to the weather.

The Temple takes its name from the Knights Templars. The Tower is named after Gundulph's White Tower, the first portion built by the architect bishop. Tripe Yard, Petticoat Lane, is another instance of corruption; perhaps it should be Strypes Yard, for the historian had a house in this lane until his death in 1757. Watling Street was anciently called Atheling, afterwards corrupted to Watheling Street, and now to Watling Street. All the eighteenth-century maps show the name Watling Street printed against the line of the famous road from Dover to Chester. Wardrobe Street, Doctor's Commons, is so called from being on the site of a house built by Guy, Earl of Warwick, whose son sold it to Edward III., who kept his wardrobe in the said house; and Warwick Lane is named after Richard Nevil, Earl of Warwick, who had his inn or town house in the lane. I never see the small figure, placed on the corner house after the Fire, without thinking of the King-maker.

And now, courteous reader, I will bring my chatter to a close. It has afforded me pleasant occupation to set it down, for I am a Londoner, although I creep from the City every night, that is when the railways will carry me. Often I bless good fortune that has led me to choose an eighteenth-century shell in which I rest and entertain my friends, for there I can let my fancy roam, and imagine the clock to be set back. London is not a perfect city, but it is fascinating to the extreme; its odd shapes are pleasing, its irregular growths and out-at-elbows appearance afford me something to write about. I like its flavours, its smoke, and its noise; it is a museum of cities, a repository of almost everything that has been attempted. The history of London is the tale of England; the street nomenclature has something racially

human about the sound and spelling. What other city can boast a Pie Corner or a Pudding Lane, a Broad Street for one of the narrowest thoroughfares, or a Petticoat Lane for the sale of old clothes?

Here at my desk, while penning these notes, all sorts of London characters have been at my elbow; some I conjured up when dining with my friend, and the conversation on streets started. I have nodded to the gables of Cheapside, I have been near Wenceslaus Hollar while he

made etchings of the ruins after the Fire. I have seen the shade of Master Pepys, distinguishing his plum-coat, and noting the querulous look on his face. To all Londoners all, past and present, it is not my lot to be dull in your company. I have no recipe for melody when the streets are open to my observation, but I fall into brain storms when my eye chances upon some interesting building that has sprung up from the pavement, ignoring all the laws of taste sanctioned in Cockayne.

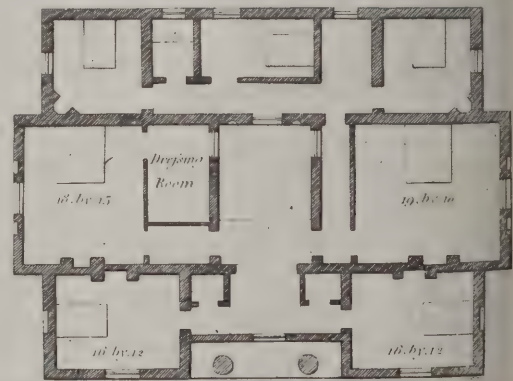
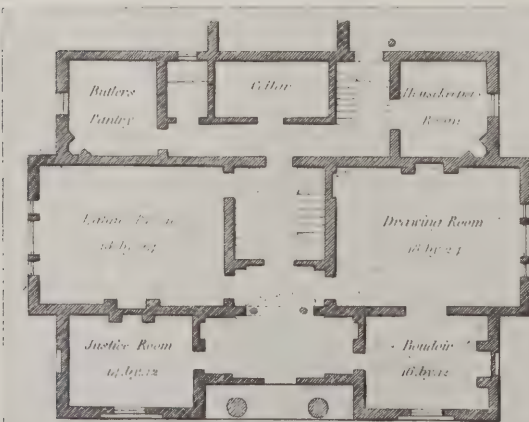
Cottages and Villas of the Early Nineteenth Century

IT is a pleasure to turn from the official reports, memoranda, and miscellaneous productions on modern housing to Mr. Pocock's "Architectural Designs for Rustic Cottages, Picturesque Dwellings, etc.," published in 1807. Mr. Pocock was an architect, and that he had a great soul the sentiments in his work proclaim; that he had an eye to business he reveals with engaging ingenuousness in a P.S. to his preface, in which he says: "Mr. Pocock requests those noblemen and gentlemen, who favour him with their commands, to address their communications to his office, No. 26, Southampton Street, Strand."

There is an irresistible simplicity about this work which contrasts delightfully with the hard and efficient tone of

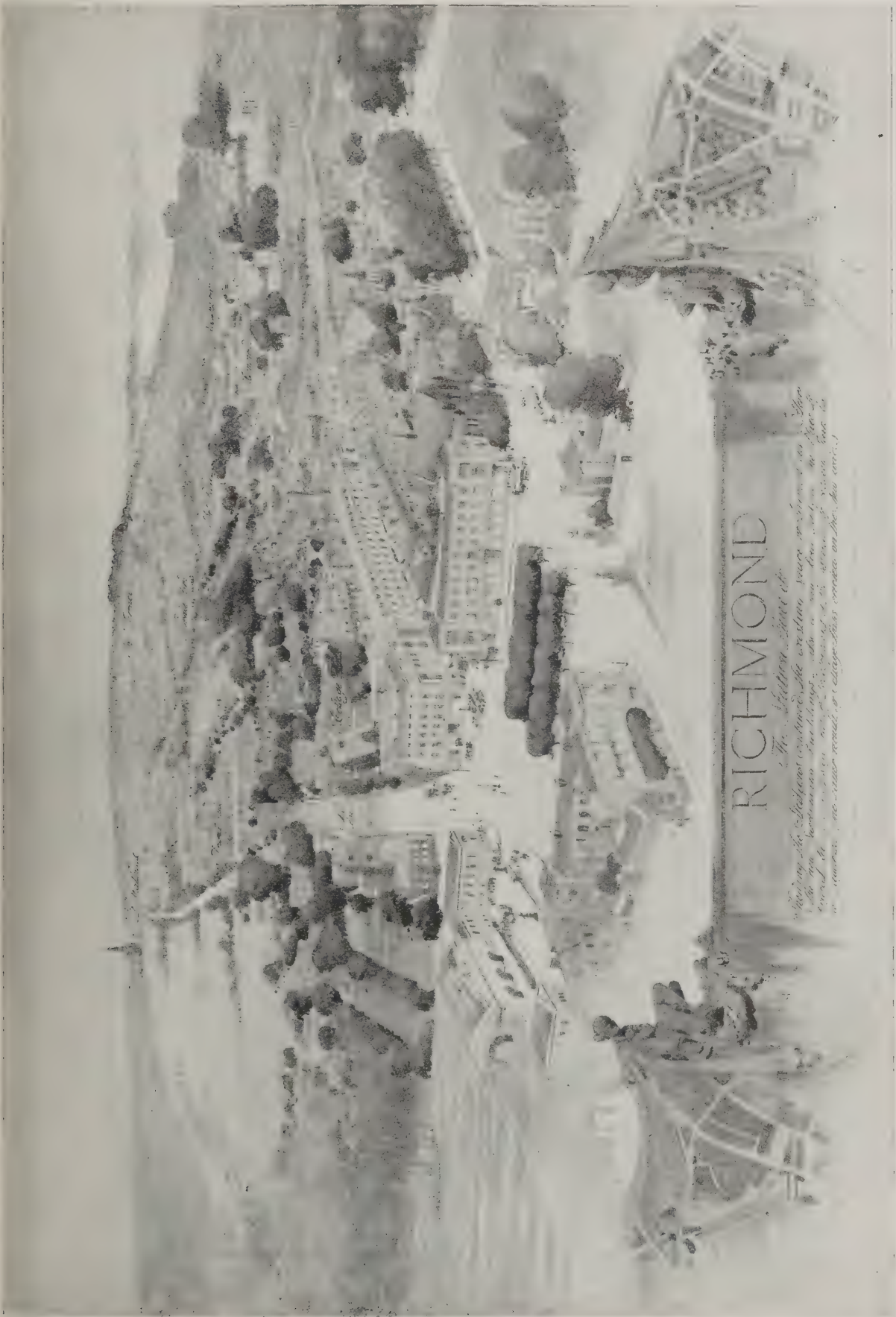
the official productions, and which carries us into the atmosphere of Gothic sublimity. Thus in his preface the author warns us that "perhaps, in steering too wide of the whirlpools of Charybdis, I may run upon the rocks of Scylla, and in guiding myself by the narrow rules dictated by economy, prove deficient in novelty, variety, and effect. It has, however, been my object to attain to the points, and that with the least expense possible, and the advance in price of every article used in building renders highly requisite." Unfortunately Mr. Pocock does not venture to express himself further on the economic question, and not a word is vouchsafed on the subject of cost.

The author divides his subject into several classes,



DESIGN FOR A VILLA IN THE GRECIAN MANNER.

(From Pocock's "Rustic Cottages, Picturesque Dwellings, Villas, etc.")



RICHMOND

The Station, where the
Richmond and Potomac
Rivers meet, is a fine
spot for a new building,
and the proposed scheme
is a most excellent one.

AN IMPROVEMENT SCHEME FOR RICHMOND: STATION PLACE, ETC. LOWRY AND BUCKNELL, A.A.R.I.B.A., ARCHITECTS.



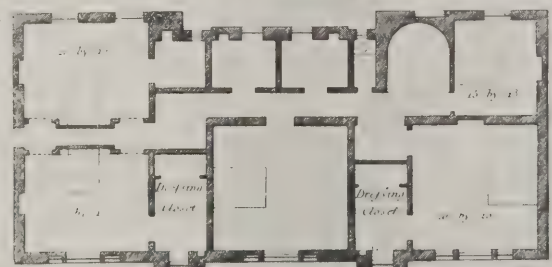
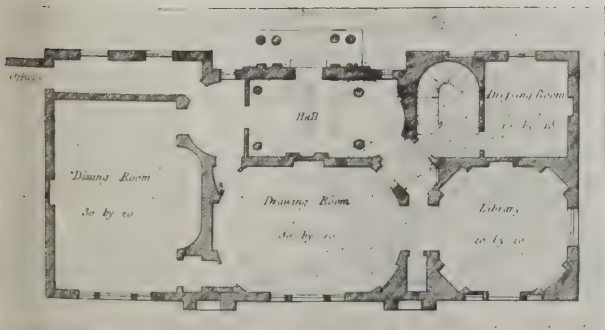
AN IMPROVEMENT SCHEME FOR RICHMOND: THE WAR MEMORIAL. LOWRY AND BUCKNELL, A.A.R.I.B.A., ARCHITECTS.

ages being divided under the headings of "Rustic Cottages or Habitations for the Labourer" and "The Cottage Ornée," which is apparently the same thing as a cottage, but with rather more Gothic flavour about it. The *cabane ornée*, or ornamented cottage, is a building that owes its origin to the taste of the present day. It is a sort of week-end garden-city business, though humble in its appearance, affords the necessary convenience for persons of refined manners and tastes, and is, perhaps, more calculated than any other description of building for the enjoyment of the true pleasures of building life, unencumbered with the formal and troublesome appendages." Obviously the *cabane ornée* is intended for idealists and simple-lifers. The "Rustic Cottage for the Labourer" is one to which we should confine our attention in these days of housing policies and problems. We are told that "this constitutes a class of building particularly interesting, whether the interest arises from a heart wishing to serve the cause of humanity in providing comfortable dwellings for numerous part of our fellow-creatures, or from ideas of improvement in the mind of a great landed proprietor." We worry here with Housing and Public Health Acts, Sanitary Authorities, municipal authorities, bye-laws, and their entanglements. The philanthropist and the landed proprietor, with the aid of Mr. Pocock and Mr. Pecksniff, do the business. We may still see examples of how this is done in the parks, at the lodge gates of the afore-mentioned proprietors, and occasionally in "tied" villages, where they breathe a decayed Gothic and an insanitary atmosphere, and which are so far from our advanced standard of to-day. They were the ideal thing in 1807, when Mr. Pocock presents them with a bouquet of historical flowers. "For what is so likely to render

them" (the peasantry) "numerous, as the possession of comfortable habitations, where, after the labours of the day, they may enjoy domestic comforts in the midst of their families?" Nor is the moral tone overlooked, and the same problem of counteracting the public-house temptations seems to have been exercising the minds of the housing reformers in 1807 thus: "If a small portion of ground for a garden is attached, in cultivating which they may occupy their leisure hours, it may prevent their spending their time and money in scenes of intemperance, whereby their habits of industry are relaxed and their morals corrupted." Surely no Government Department could have put it more beautifully.

The plans and elevations, which we have reproduced, are, to a large extent, self-explanatory. Our first illustration, however, is described as "a design for a villa of Grecian architecture, containing on the ground floor a dining-room, and a drawing-room, to which is attached a boudoir; on the other side the entrance vestibule, a justice room, or room of business for the gentleman. At the back of the house, corresponding with these rooms in the side façade, are a housekeeper's room and butler's pantry; the further requisite offices may be added where shown, according to the situation of the house, and the style of living of the occupier. On the chamber floor are six best bed-chambers. This house should be built either of white bricks, stone, or stuccoed."

The second illustration is "a design for a villa, something in the Italian manner; it contains a drawing-room, dining-room, breakfast-parlour, and dressing-room on the principal floor, and five chambers and dressing-rooms on the floor above. This edifice is placed on a terrace, which may be so managed in the entrance front as to permit a carriage to draw up close to the portico, either



DESIGN FOR A VILLA IN THE ITALIAN MANNER.

(From Pocock's "Rustic Cottages, Picturesque Dwellings, Villas, etc.")

by artificial arrangement of the levels of the ground, or by taking advantage of the natural declivities. The offices may be formed in the basement, and the cellars under the terrace; in this case the plan will require a little alteration, being adapted for offices to be attached, where denoted in the plan. Servants' sleeping rooms must then be constructed in the roof. This should be built either with stone, or stuccoed to represent it."

No better conclusion could be given to these notes than in the apologetic terms, beautifully expressed by Mr. Pocock in his preface: "I trust that the language in which they are expressed will not operate to the disadvantage of the sentiment intended to be conveyed, upon the presumption that reasonable men look for nothing further than mere information in the writings of artists."

The Plates Described

Latimer Memorial Church, Birmingham.

THIS fine church, erected from the designs of Mr. W. H. Bidlake, M.A., F.R.I.B.A., was the gift of an anonymous lady donor. It was consecrated in 1903. A peculiarity of the plan is the marble-lined "tank" for baptism by total immersion. The materials are South Staffordshire brick walls and Hollington stone dressings, piers, and arches. The nave roof is of red deal, and the chancel has a ribbed vault. A room is provided over the baptistery. There is eventually to be a peal of bells. Haden and Sons carried out the heating system, which is combined hot air and hot water. The builders were Messrs. Sapcote and Sons, of Birmingham.

Richmond Improvement Scheme.

The authors of the improvement scheme illustrated in this issue have supplied the following particulars: Richmond may be regarded as London's greatest pleasure resort, so that any town improvement should be considered from the point of view both of visitors and residents. From both points of view the existing railway arrangements are hopelessly inconvenient. To the visitor the first impression is very disappointing—the muddle of sheds, where there should rather be a suggestion of the beauties to come. It is suggested that the three stations should be combined, and the extra space thus created would be utilised as a "place" with new and improved frontages, etc., forming a fitting entrance to the town. From this "place" George Street and Green Side run down to the river, and the latter would be used to relieve the congestion of traffic in George Street. Both these and the Sheen Road converge to a point where it is proposed to form an open space as an approach to a suggested new bridge in the position originally proposed when the present bridge was built, and again by the inhabitants at a much later date, i.e., by Water Lane. Between this and the existing fine bridge could be developed the promenade and space in front of the town-hall as a pleasure centre, the promenade being widened and the terrace developed at a slightly higher level connecting the bridges.

The new bridge would relieve the traffic on the existing bridge, which should be kept for light traffic only, and will not divert traffic which might be beneficial to the town. The promenade (Cholmondeley Walk) should be widened near the new bridge, and at the other end it is proposed to use one of the arches of the railway bridge as an entrance connecting the promenade and Deer Park. The existing very obscure entrance to the Deer Park from the New Station Place might be emphasised by piers. A new road is proposed from the station to connect up to Mount Ararat Road, and the island site thus created (at present consisting mostly of very small property and sheds, etc.), developed as cottage flats with the exception of the George Street frontage, which would, of course, be rebuilt as shops.

Other suggestions comprise a rest garden by the church, a memorial hall opposite the new bridge at the meeting of Green Side, George Street, Hill Street, and the continuation of Sheen Road, a covered market on the

site of the open market, open baths in the Peter Meadows; a war memorial by the town-hall and for part of the terrace development between the bridge development of the old graveyard and connecting such green spaces wherever possible, and the adaptation of the Old Palace to use as an arts centre. The scheme outlined should be regarded rather as a sketch scheme as a complete scheme would entail much further consideration.

Entrance Treatment in Louis XVI. Style.

This magnificent plate from César Daly's "M. Historiques" is one that will repay close study, notable as much for its fine composition as for restraint and purity of its detail.

The House of M. Charles F. Mèwès.

The house that an architect designs for his own should be a particularly interesting building, because the nonce, he is entirely free from the trammels of client, and may express himself as he will. We assume, therefore, that such a house is the architect's true conception of the ideal dwelling. The facade which we illustrate in this issue of M. Charles Mèwès's own residence in Paris will therefore be studied with peculiar interest. Unfortunately, a plan of the house is not available, so we are unable to judge of the interior arrangements; but with regard to the exterior, it is obvious that M. Mèwès does not consider it necessary to adhere to the strict formulæ of academic design. He is undoubtedly right; for a house, in contradistinction to a building of communal type, should have a personal quality in it, properly expressive of its owner's individuality. The keynote of this façade is order without pedantry—clearly revealed in the placing of the entrance to one side, and the pronounced "verticality" of the windows, the third-floor series of which thrust some of them unconventionally into the deep frieze, with its interesting console motif. By making a special feature of the window and giving it a graceful balcony with some beautifully carved swags beneath, the architect co-ordinates the whole design and gives it a focal point of interest. A clever design, and one that provides an appropriate domestic environment for the joint author of the "Morning Post" building, the Ritz Hotel, and the Royal Automobile Club.

Birmingham A.A. and the Presidents of the Institute

FOLLOWING is a copy of a resolution passed at a general meeting of the Birmingham Architectural Association on Friday, December 5, 1919: "At this meeting of the Birmingham Architectural Association hears with the deepest regret of the indisposition of the President of the Institute, and desires to express sincere hope that the complete rest and treatment about to undergo will speedily restore him to health; that the Institute and its allied societies may again be the benefit of his guidance and energy in the direction of its affairs. The meeting also desires to acknowledge with sincere thanks the President's kind wishes for success and prosperity of the Birmingham Architectural Association."

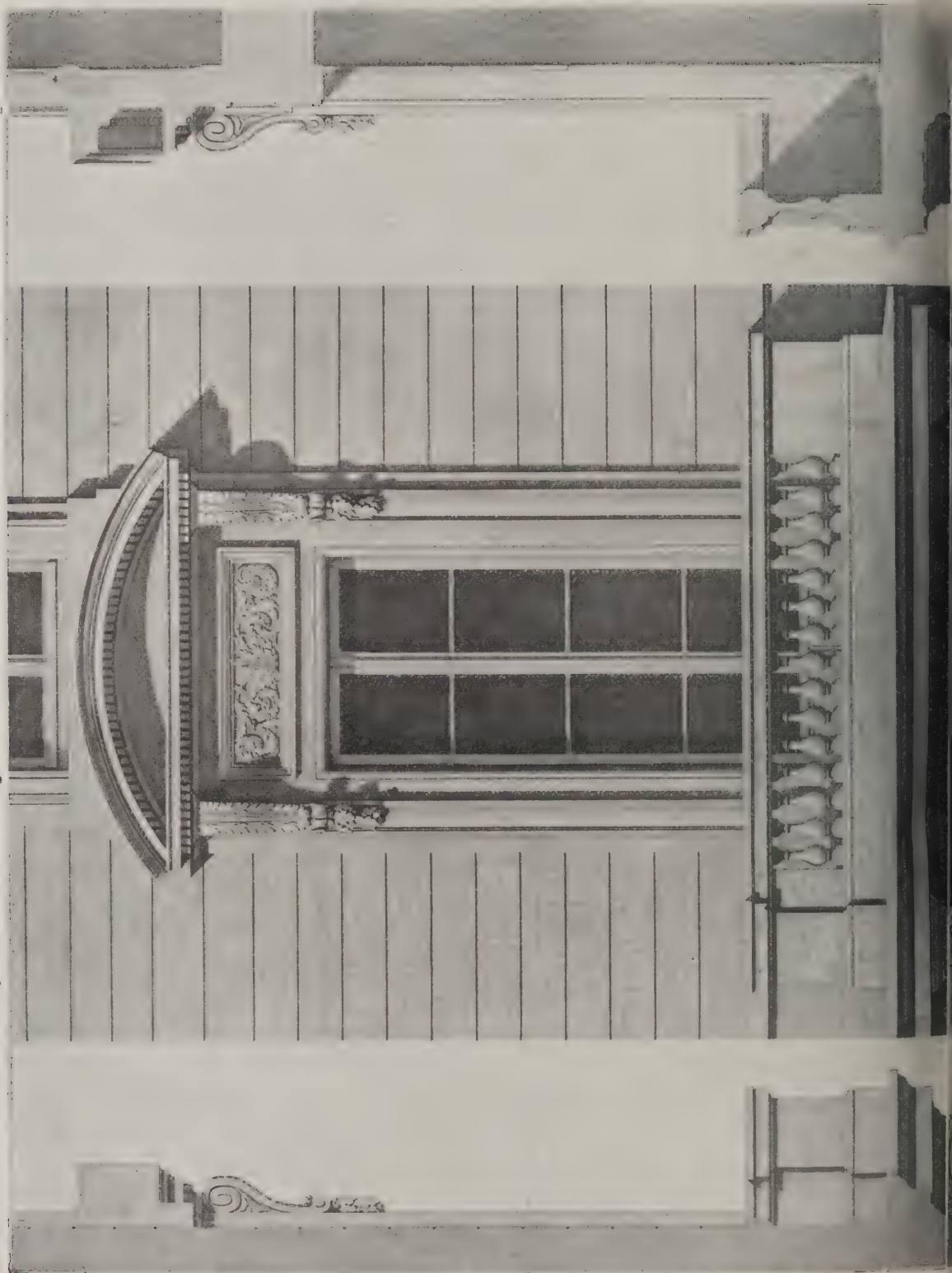
The President replied as follows:

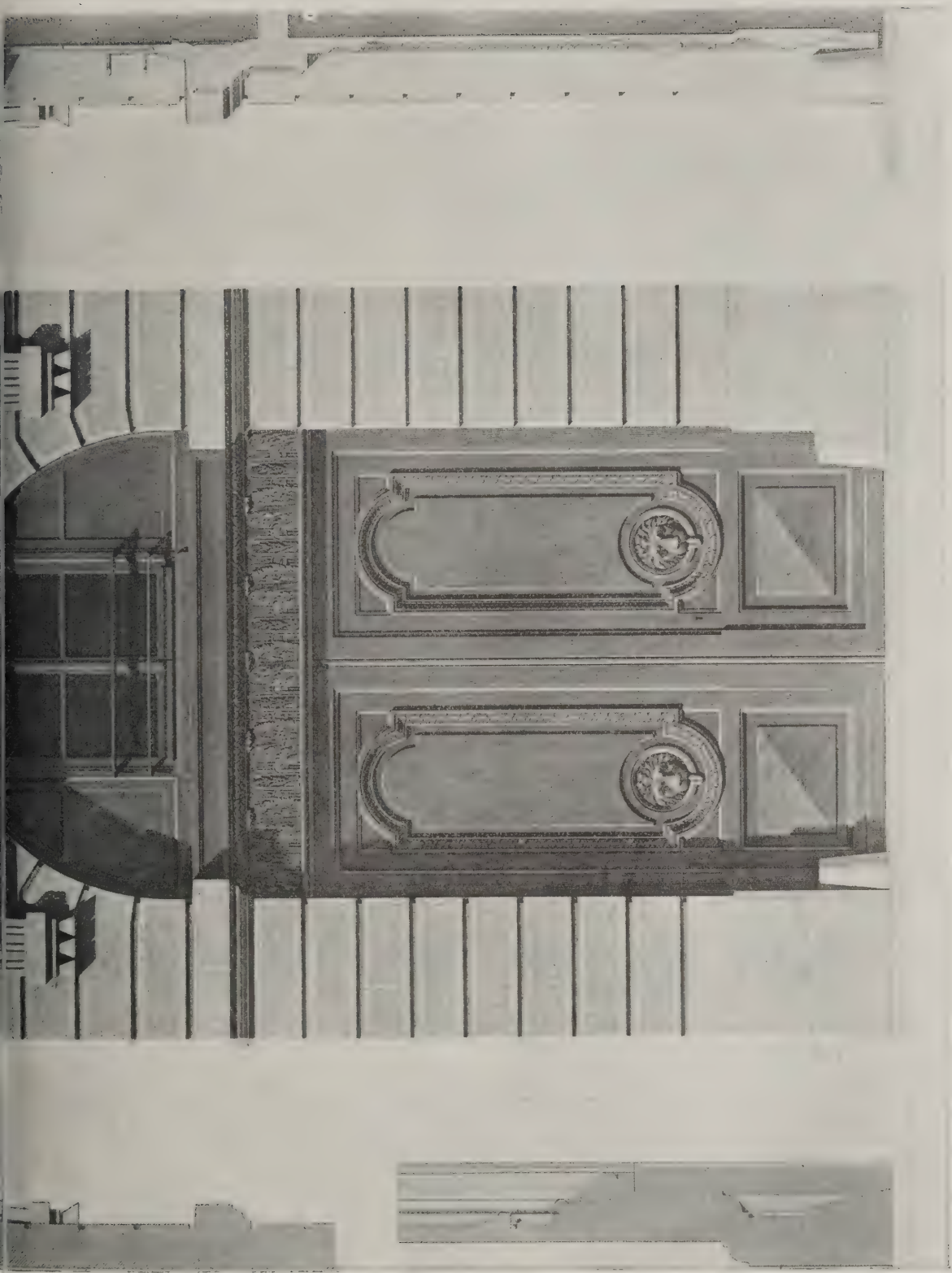
Dear Mr. Buckland,—I am most grateful to you for your kind letter and good wishes. Will you still further oblige me by informing your members how deeply I am touched by their resolution, and how sensible I am of the kindly and loyal feelings which inspired it. It is, perhaps, easy for generous minds to do such things. But it is a very great and significant thing to *think* of the profession of our great art which will render us invincible in our efforts to advance its interests.

Believe me, dear Mr. Buckland,

Gratefully and sincerely yours,

JOHN W. SIMPSON





DETAILS OF ELEVATION TO A HOTEL (LOUIS XVI. STYLE). CÉSAR DALY, ARCHITECT.

Correspondence

A Dedication to Aero.

Editors of THE ARCHITECTS' JOURNAL.

—I take the liberty of dedicating a few lines to "Aero" in humble recognition of his lyrical outburst in the "ie" of December 10:
utules in the cornice,
Acanthus round the door;
ills across the windows,
Three feet from the floor.
orgian in the country,
Neo-Grec in town;
hat's the stuff to give 'em,
If you want renown."

THE VICTIM.

London's Housing Problem.

Editors of THE ARCHITECTS' JOURNAL.

—In your issue of November 26 Mr. (the Housing Commissioner for London area), referring to the 1,500 suitable for conversion, states "that division of such houses into tenement flats is the only possible use to which they can be put for habitation." Mr. Davidge gives no idea as to the house referred to it is impossible to form an opinion as to the accuracy of the statement. If he means the late Victorian and Early Victorian house, so many of which are empty, his statement should be accepted with considerable reserve. I have carefully examined many such houses, and although numbers are suitable for the purpose he describes, there are many which could be adapted for residential office purposes combined, and which again to accommodate families running small handicrafts. I am also of the opinion that in some districts it would be possible to adapt them for the purposes of a small hotel, particularly in those districts where the sites are deep from the back. I am well aware that their adaptation for the use of families running a small trade in an area chiefly residential would not receive the support of those planning experts who favour the complete, but inartistic, separation of commercial and shopping streets and factory districts. Nevertheless, with reasonable regard to the nature of the handicraft, I think the use of these houses adapted for combined purpose of handicraft and residential should be encouraged.

G. W. MORRIS.

—[Mr. Davidge will define the term which he refers to.—EDS. A.J.]

Wooden Houses.

Editors of THE ARCHITECTS' JOURNAL.

I have ventured to suggest, from other sources, that what is needed is a practical demonstration. My observations in Canada have convinced me with the merits of some of the Canadian practice in building with the value of certain classes of construction. I think there is much to be said for your condemnation of any attempt to impose standard and temporary wooden construction in England. There are many examples of wooden houses and the wooden house is just as much an improvement as the "cheap" brick house, with being more dangerous.

I think you will agree, however, that it would be a misfortune to pass over whatever advantages may be obtained from the greater use of wood in the building of small houses—subject to proper restriction and to proper safeguards against fire. It is certain that wooden construction would not be suitable for most of the urban districts, where close building is necessary—but in many districts, if used under proper architectural advice, wood might be used to a great extent to help to overcome the shortage of brick. If the use of wood is employed in order to substitute standardised, ready-cut houses, for houses of more durable material designed by architects, I agree with you that it would be a mistake.

The best way to counteract such a proposal, however, would be to have a fair trial made and to welcome all new ideas for purposes of experimentation. I have suggested that some of those who are interested in the sale of wood, or its more extended use, should build a village as an exhibit. For instance, if the Canadian authorities were to build such a village it would show English people the kind of homes in which Canadians live, and, incidentally, be of educational value. It would then remain for those who are capable of judging to decide whether there are any merits in Canadian methods which would be worthy of adaptation to English conditions.

I think, while objecting to publicity "stunts," you will probably agree that it would be a good thing to promote such a demonstration and thereby settle some questions which cannot be settled by theoretical discussion.

THOS. ADAMS,

Ottawa. Town Planning Adviser.

Please State Terms.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The Society of Architects has recently, and for the second time, circularised local authorities in regard to the advantages to be derived from placing housing schemes in the hands of practising architects. At the same time opportunity was taken to suggest that where local authorities invite architects to apply for housing appointments it should be made clear that the appointment will be made on the merits of the professional qualifications of the candidates only, and that the fees payable will be those agreed by the Ministry of Health for State-aided housing schemes. This proposal was submitted in view of the advertisements constantly appearing in the professional journals inviting architects to apply for housing appointments and to state their terms for carrying out the work. It is hoped that the Society's representations will have the desired effect. At any rate, the local authorities can no longer plead ignorance as to the proper procedure, and if individual architects will, in their own interests, when applying for such appointments, personally support the action which the Society has taken on their behalf a very different state of things will be brought about.

C. MCARTHUR BUTLER,

Secretary of the Society of Architects.

[A summary of the circular referred to was published on page 729 of our last issue.—EDS. A.J.]

National Banking for the Building Trades.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I think that it may be safely asserted that the greatest social evil facing the country to-day is the lack of houses. In this unfortunate position of affairs it is only to be expected that the critics will be numerous as to its causes, although many, in criticising, suggest nothing to remedy the appalling situation. To get houses built we must suggest ways and means, taking into consideration all points of the case, and encourage and foster all developments likely to arrive at satisfactory results. But the building of houses to the extent needed to-day is not merely a symbol to be expressed in bricks and mortar; the financial and economic question almost outweighs the whole situation, as is only too well known.

Let me state at once that I do not consider the Government's proposed subsidy favourably. The established and organised contractor requires no encouragement of this description to build. What he does require is that control as it exists should be almost, if not wholly, taken off; that he be allowed an open market in which to deal; that by an approved stabilised system of finance he could be assured of a fair return on his output; and that private enterprise be fostered and encouraged. Subsidies will not lower building prices, on the other hand, the tendency will be to make them soar even still higher. Again, why should the building trade, which, after years of depression, is gradually, but slowly, showing signs of a new life, be once more "stabbed" in the back by the "control" of luxury building. It is only by allowing the full development of its internal trade in all branches that this country can hope to pay back its enormous debts due to the war. It would be interesting to have assurances that, by the holding up of any building which in the eyes of the local authority may be described as a "luxury," so many more houses will be built instead. Without positive assurances, one can only otherwise form an opinion which would not agree with that theory. Public and commercial undertakings, under whatever heading they may fall, are a distinct financial gain to any authority.

In the present chaos of affairs, I can clearly see the time quickly approaching when a system of national banking for the building trades throughout will have to be established to assist the development of the trade. Banking is the simplest and one of the most profitable industries in the country to-day. Certainly the Government should, under the present national conditions, give every assistance to this being brought into operation. No doubt, ordinary business enterprise would also be attracted to such a bank, and as for its credits, it would be of the very best. My opinion is that the bank should be a joint arrangement as between the master builders and the operatives, and that a sum be set apart annually to provide some fund for meeting unemployment and depressions in trade. I believe that 75 per cent. of banking business to-day is done through five banks, so that banking is approaching a monopoly, which is not good for national credit. No doubt, after being

granted a charter it would soon become a recognised industrial bank.

In short, by thus placing builders and contractors upon a sound financial standing, the issue of loans, primarily for building purposes, is a following result, and the present position as regards the housing problem would be greatly relieved. The building trade is a mighty force in its unions to-day, and takes in a large membership. The master builders are no less strong in their influence; let them take the initial step by approaching the Government on this matter. I shall be pleased to enter into direct communication with any interested parties and lay before them accumulated evidence of the possibilities of such an undertaking and freely give any other assistance necessary. The hour is at hand: let us jointly, both in the profession and the trade, show to the country that we can solve our own problems and conduct our own industries, on a business basis, equal to any other undertaking.

BUILDING SURVEYOR.

War Graves in France.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The attention of the Imperial War Graves Commission has been drawn to certain illustrations of types of headstones to be erected over war graves in France which appeared in your issue of November 5.

The Commission note that on the headstones on which two soldiers' names appear no religious symbol is shown. I am to point out that the religious symbol will not be omitted from any memorial unless a definite wish to that effect is expressed by the next-of-kin. The Commission have therefore instructed me to send you a design of the type of multiple headstone which will be erected over the graves

containing more than one body and showing where the cross will be engraved.

You will readily understand that the photographs appearing in your paper might cause pain to relatives of the fallen owing to the apparent omission of the cross, and I therefore wondered whether you would consider it possible to publish a revised illustration, so that any erroneous impression it might have caused could be corrected.

J. E. TALBOT.

Principal Assistant Secretary, Imperial War Graves Commission.

The Government and Housing.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—It appears from a letter addressed by the National Housing and Town Planning Council to members of the House of Commons that it is likely that the Government will shortly make it illegal to undertake any building except housing.

During the war everyone connected with the building trade accepted as a war measure the Government's regulations against building, and, although hard hit, we said nothing, hoping it was all for the good of the country and would help to win the war. Now things are different and the war is over, are we to be treated as human beings with the right to work honestly for a living, or are we to be sacrificed for ever to the supposed good of the community?

In districts where little housing is required, and where none is on foot because of high prices, there will be great distress in the building trade if work other than housing is stopped. Workmen cannot move from place to place with their wives and families to find work under present conditions, and they will simply have to starve at home.

The Government will alienate the sym-

pathies of thousands of men in the building trade if repressive measures will have the effect of stopping employment and dislocating a trade already hit by legislation, are introduced.

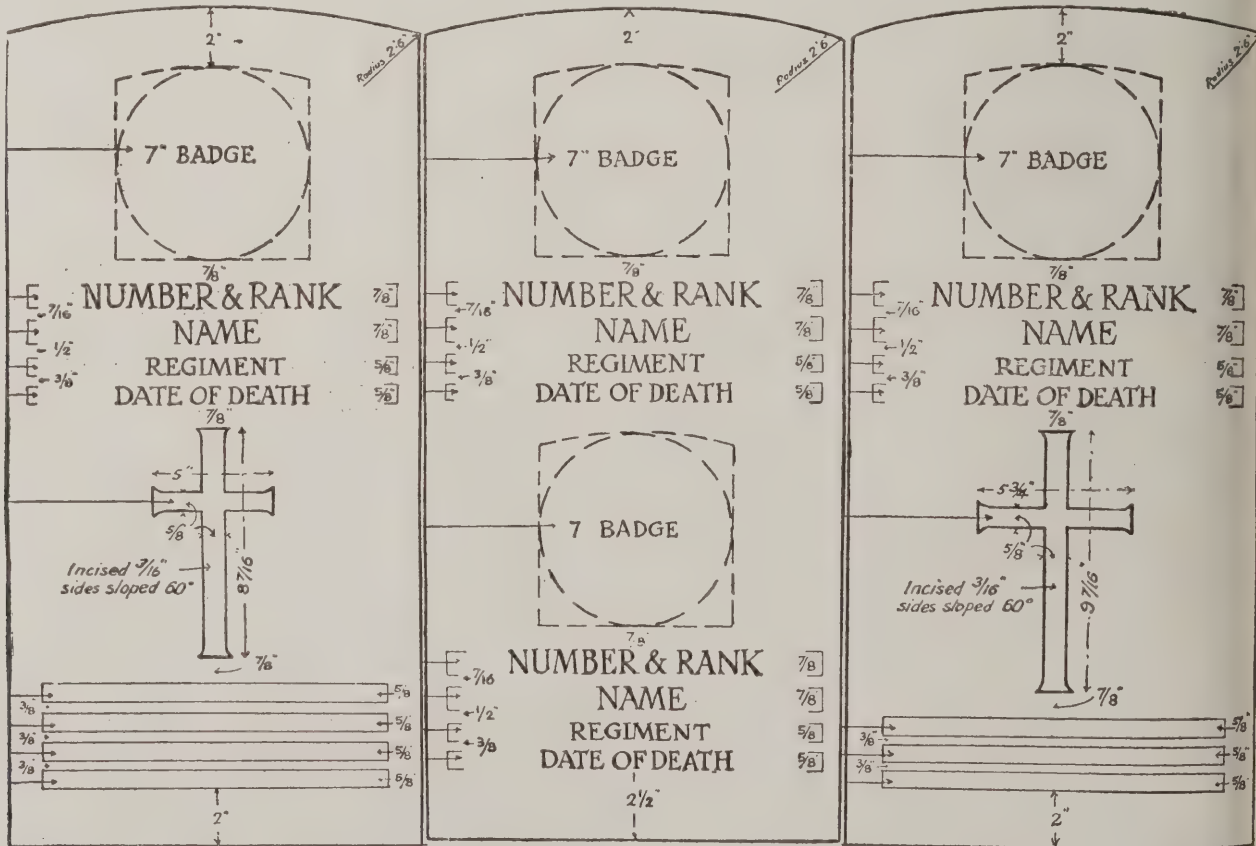
G. T. BASSETT, A.R.C.

Unity in the R.I.B.A.

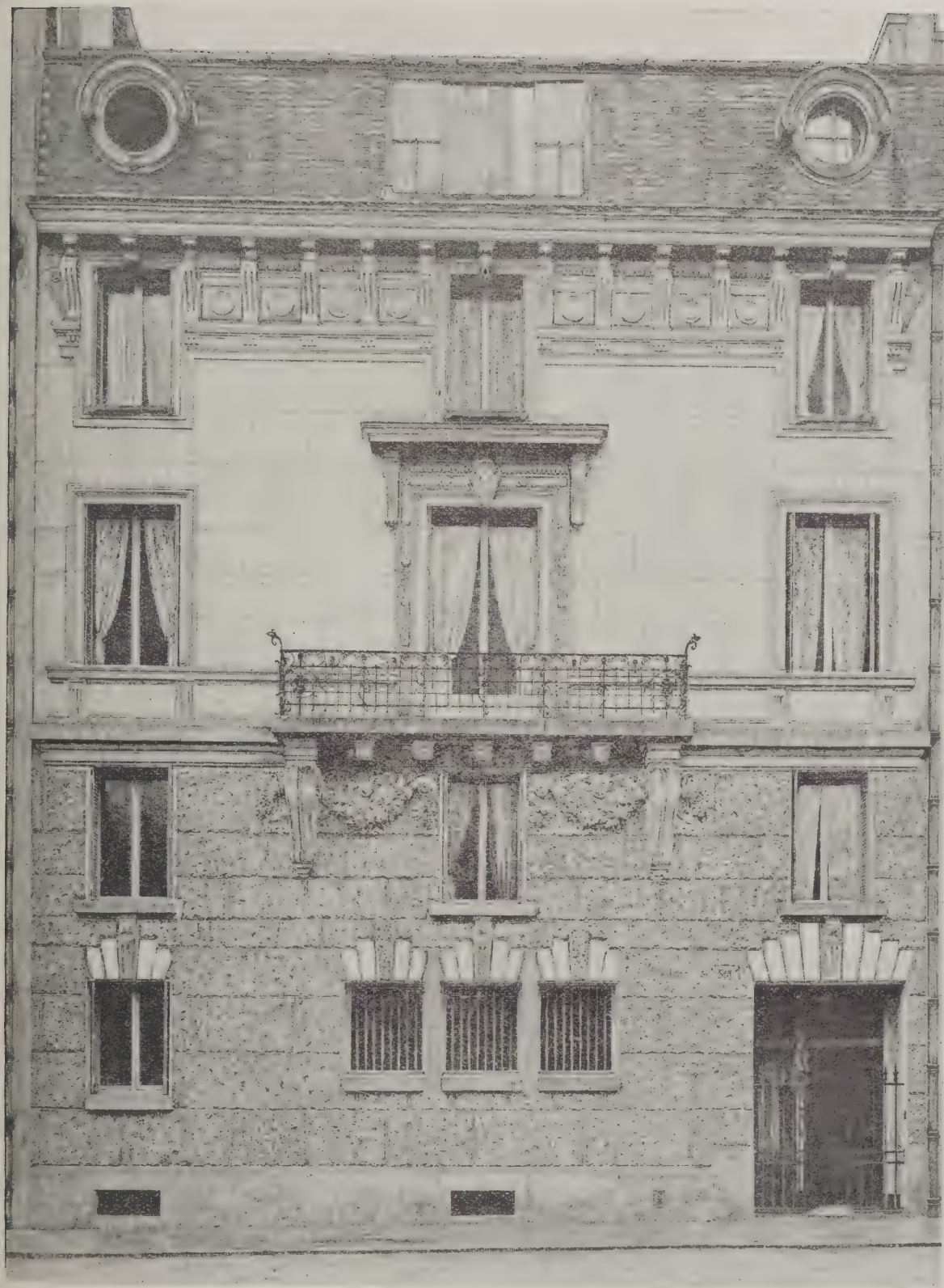
To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Much has been written in the past year on the necessity for architects to pull together and show a front. That such an exhortation, when necessary appears paradoxical, in the case of a society the members of which have associated together "for the advancement of civil architecture," is a necessity for these exhortations is to be found, however, in recent events. The trouble dates back from 1887. Clause 1 of the Charter granted in that year provides that "no associate shall be eligible to vote in respect of the making, adopting, altering, revising, suspending or rescinding of any by-law."

Within recent years the controversy raging round the creation of the licentiate class, the Registration Bill, the absorption of the Society of Architects into the admission of licentiates to the licentiate class, the proposed new Charter, last, but not least, the suspension of clauses of by-laws 10 and 11, together with the admission of certain candidates to the associate class without the necessary qualifying examination, all indicate a lack of unity which is essential if the corporate body is to be a real influence for the advancement of civil architecture. I say that all these measures have been taken by the consent of the general body, and being put into execution is constitutionally correct, but to affirm that the majority of corporate members agree to these proposals has not yet been proved.



MULTIPLE HEADSTONE FOR SOLDIERS' GRAVES CONTAINING MORE THAN ONE BODY.



HOUSE DESIGNED BY M. CHARLES F. MÈWÈS FOR HIMSELF IN PARIS.

never can be proved, until Clause 28 of the Charter of 1887 is rescinded and a special vote for all corporate members instituted.

The President, in his explanatory letter at a meeting held on December 1, 1919, said that if members disapproved of the policy of the Council in suspending the necessary qualifying examination for students who have been on active service, "it is open for them to challenge the Council at a general meeting and to exercise the power of adverse vote." This raises the fact that members who would have raised objection were miles away from Conduit Street, fighting for their country when this proposal was first made. On their return they took the opportunity of protesting in the "misleading" and "deplorable" manner of sending a ballot. The result is only a well-known, and now we have the spectacle of a Council circumventing the expressed opinion of the majority by means of a special meeting. Roughly, the birds of the corporate members are outside London, and it is quite obvious that the majority of these cannot attend special or general meetings, on the ground of expense and loss of time. The ranks of all pre-war associates are therefore due to the eight Fellows—some of whom travelled from the north—who so staunchly championed the cause of the "misleading" ones. The arguments which the President uses for those "whose war service entitles them to every consideration" are equally to Associates who enlisted. The men spent years in hard study and were put to considerable expense in so doing. They do not begrudge concessions being granted, but they expect them to be reasonable and equitable, and to correspond with concessions granted to students in institutions and societies of similar standing to the R.I.B.A.

In the concluding paragraph of his letter the President states that "a Council must carry out pledges given by its predecessors," and it will be interesting to know how the Council reconcile their action with the pledge given in the Annual Report for the Official Year 1914-15, printed on page 351 of the Journal, and dated May 22, 1915, which states: "In consequence of the outbreak of war it was decided that the consideration of all matters of policy of a controversial nature should be deferred." If matters continue in this way the opposition society, whose representative letters I append, will shortly withdraw the Institute in point of membership.

F.E.D.U.P.

Concise Costing for Housing. by the Editors of THE ARCHITECTS' JOURNAL.

RS.—I have been much interested in Sumner Smith's articles on "Concise Costing for Housing." The tables he has compiled are a revelation and give valuable comparative data. The tables in the issue of December 3 dealing with the relative values, cubical contents, gross and net areas of houses will, I feel certain, appear forcibly to every architect. Mr. Sumner Smith has demonstrated clearly the value of a house is in its accommodation and not in its cubical contents, and exposes the fallacy of basing the cost of a house on cubical contents only. At last he has given us such excellent results obtained by scientific costing, it is for me whether a contractor would consider the adoption of such a method which adds more labour to his already complicated work. I am prepared to

admit that practical and scientific quantities would lighten his burden considerably and would form an excellent basis for scientific costing, and if this could be done, as he states it has been done, at less than 3 per cent. on the cost of the job, certainly from a cost point of view, every contractor, I am confident, would welcome the adoption of this method.

BUILDER'S MANAGER.

MR. H. D. EBERLEIN ON AMERICAN ARCHITECTURE.

Mr. H. D. Eberlein, B.A., in delivering a lecture at the Bartlett School of Architecture, University of London, on "American Architecture During the Seventeenth and Eighteenth Centuries," said that the influence of English tastes was at the back of all American architecture of that period. In New England the houses were covered with weather-boards, but underneath they were Elizabethan half-timbered houses. Methods of construction were identical and everything else was exactly the same. It could be seen where the old windows and casements had been removed to make room for the double-sash windows. That change was very general throughout the colonies about 1720. If a rigid examination of the architecture of that time were made, a precedent for every bit of it would be found in England. In the Southern States, which were mostly settled by people from Surrey, the methods of construction common to that county would be found. In other parts of America slightly different methods would be found, but they were all traceable to the parts of England from which the settlers emigrated.

Throughout nearly the whole of New England the houses were built of timber, in spite of the fact that there was a plentiful supply of brick and stone. In the middle colonies timber was only used as a temporary measure, because the settlers came from the northern counties, and as soon as they were able they built houses of stone or brick. In nearly all cases the settlers were prepared to overcome many obstacles in order to build with the same materials that their ancestors had used. They all held rigorously to the precedents before them, and made use of their inherited knowledge of building, but they adapted everything to the existence thrust upon them by the conditions under which they lived. When they found that their previous practices were not suitable to the new conditions they changed them. That accounted for the casing of weatherboarding so frequently encountered. They built the houses of half-timber and plugged the inner spaces with bricks. In the colder climate of New England this construction was not comfortable, so weatherboards were fixed on the outsides. Some of the houses had chimneys built up outside, but as three sides of these chimneys were exposed to the outside air whatever heat might go up them was wasted; therefore the chimneys were afterwards built inside, and the spaces at the sides used for cupboards or sleeping bunks. In the Southern States the chimneys were left outside. That was another instance of adapting precedent to current needs, and also reflected the economic conditions—the houses were simple and the inhabitants led a simple mode of life.

In 1720 there was a greater freedom from the fear of massacres, and the wealthy in-

habitants thought that they must have something better in the way of buildings. They sent home for books on architecture. These amateurs were able to build a very decent house. The original elevation of the State House at Philadelphia was drawn on a piece of parchment by the Hon. Andrew Hamilton, a judge of that State, and a couple of little floor plans were tacked in the corner. But he had very good builders, who, on these very slender specifications made a very good job.

In the building of houses they simply copied Georgian work then going on in England. Some of the churches were built by men who had built many London churches. From 1720 onward Georgian architecture was found right through, and that should be very carefully differentiated from the colonial architecture, which was developed and adapted for the needs of the colonies and for the local conditions. The architecture which began about 1720 was absolutely Georgian, but also received local adaptations. Several London churches, for instance, St. Martin's-in-the-Fields and St. Mary-le-Strand, had their almost exact counterparts in New York. The Georgian houses were nearly all of brick, built with Flemish bond. There were very few professional architects in America in the eighteenth century, and the University of Virginia was planned on small sheets of notepaper, very roughly, and all on loose leaves. Everyone interested in architecture left standing orders in London to have sent to them everything that was published on the subject, and they simply adapted their details from those books. Early American builders were their own architects and their own clients.

Owing to post-war conditions, the present period was a very fruitful one from an architectural point of view, and there were tremendous opportunities both in England and America to do something really worth while, and to make architecture a living force in men's lives. One great fault had been committed in America in the past, and that was the neglect of the small or moderate sized house for the larger houses. It was the small house that would give the architectural complexion to the country, and this fact had been overlooked or the responsibility shirked. It was necessary to build the small house, especially as so many people were not so well off now as before the war, and that fact was being recognised in America. It was also necessary to simplify housework wherever possible, and many people in America were returning to the early colonial ideals.

He did not want to detract from the Ecole des Beaux Arts system, but he thought that men came out from that establishment with a raw, strict, cold, intensely academic conception of the whole thing, and until they shook off most of that their work would have no life or fire. They made very nice *projet* work, but it would never have any individuality. Men who had taken off their coats and found out the secrets of construction would not turn out that sort of work. From what he had seen in Italy and France, he was confident that the British and American architectural schools were equal to anything in those countries, and more than equal.

In conclusion, Mr. Eberlein said that between England and America we should be able to produce something that was really worth while and would be a living force.

SUBSTITUTE BUILDING MATERIALS : FIBERLIC.

The following critical report on Fiberlic by a qualified architect is a further instalment in our series of articles on substitutes for building materials: Fiberlic, an alternative material for lath and plaster finishing to walls and ceilings, was first introduced by the manufacturers—Messrs. MacAndrews and Forbes, Ltd.—about six years ago, and its employment has so increased since that time that an account of its nature, and the uses to which it may be applied, will, it is hoped, be of practical utility to both architects and builders. Especially is this likely to be the case at the present moment, when the scarcity of ordinary building materials not only brings into prominence any commodities which can be employed in their stead, but places an obligation upon all engaged in the design and erection of buildings to become conversant with their possibilities. Fiberlic has for its basic elements the fibres of a particularly tough and tenacious root, supplies of which are derived from two species of plant named respectively *glycyrrhiza glabra* and *glycyrrhiza glandulifera*. These herbaceous growths are found distributed over vast areas in the Middle East, the largest fields exploited by the Company lying in the Caucasus and Transcaspia, Anatolia, Syria, and Mesopotamia. The digging up of the roots, some of which grow as deep as eight or ten feet below the surface of the ground, gives employment to the peasant inhabitants of the numerous villages situated in these widespread districts, and takes place annually between the early days of September and the end of March.

Manufacture and Application.

There are three stages through which the raw material passes during the process of manufacture: (a) The conversion of the root into pulp; (b) the formation of the pulp into thin sheets; (c) the assembling of the sheets or plies into the finished board. Incidental to these, there is the process of rendering the outer layers waterproof. The process of desiccation or "cooking," to which the fibres are subjected during the initial stages of manufacture, so completely destroys living organisms that the finished product may safely be described as being free from any likelihood of the development of dry rot or other fungoid growths within its structure. It would probably, for this reason, resist contagion from infected timber, into contact with which it might inadvertently be brought in the course of building operations. Tests of a very severe character show that Fiberlic possesses the property of fire-resistance in a high degree, while its sound-deadening qualities have been demonstrated by experiment and actual experience. Its non-conductivity of heat and cold is also a marked characteristic.

One of the most important factors in the application of Fiberlic is the framing to which it is applied. The surfaces of all studding, intermediate rails, and joists, intended to receive the sheets, should not only be rigid but must lie in even planes. If this latter condition is fulfilled, and the inequalities rectified by the addition of furring strips, the panels will lie flat. Before beginning work on the framing, it is very advisable to study the set-out of the panelling, and arrange that the studding and joists are so placed that the four edges of each board may be nailed down, and all mouldings have a support for

fixing. The joints between the boards—which should be about $\frac{1}{8}$ in. wide—are then concealed with covering strips (either plain or moulded), care being taken never to attach a moulding to the board unless there is a support behind it. The use of Fiberlic for internal wall or ceiling finishings carries with it the signal advantage that the surfaces can be painted immediately after the boards have been fixed, thus enabling the house to be occupied without delay. In decorating, a cheap varnish as a first coat to the surfaces and edges, though not essential, is recommended. If, however, varnish is not employed for this purpose, the first coat may consist of a good size mixed with a little of the selected colour. After this, a coat of paint should be applied, followed by a final coat twenty-four hours later. Two coats will generally suffice to secure a satisfactory result, but if very light colours are used, three coats are usually required. It may be added that stencilling, stippling, handpainting, and graining are all possible as decorative finishing with this material. When Fiberlic is erected over old work, first of all ascertain if the surfaces are even, and if they are not, furring pieces should be employed, as previously described.

Fiberlic can be cut with a fine tooth cross-cut saw, or a sharp chisel, or it can alternatively be scored through with a sharp knife against a straight edge. Very extensive use has been made of Fiberlic by the War Office, the Admiralty, the Ministry of Munitions, the Office of Works, the General Post Office, and the London Hospital, as well as numerous other public bodies. It has also been specified for important housing schemes in Manchester and Sheffield, while its employment by architects and contractors is daily increasing for work of a general character. In this latter connection it is of interest to note that it was used for the inter-spaces between the roof rafters of Old Merton Parish Church, Surrey, instead of lath and plaster. Architects may accept with every confidence the statement that the use of Fiberlic absolutely precludes the risk of condensation. This valuable property arises from the fact that its inherently warm surface does not precipitate the moisture of the atmosphere. The ease with which Fiberlic can be handled, and the speed with which large areas may be covered by it, give it distinct labour-saving advantages. Where rapid construction is essential these considerations, it need hardly be pointed out, are of the highest importance. Regarding the question of cost, it may be stated that the employment of this material results in a considerable economy when compared with lath and plaster.

Sizes, Areas, and Weights.

In publishing the following table of sizes, areas, and weights, it should be explained that each line refers to the contents of a crate containing twenty-eight sheets of Fiberlic, of standard thickness (about 3-16 in.):

Size.	Square feet.	Weight.
48 in. x 12 ft.	= 1,344 ...	7 $\frac{1}{2}$ cwt.
48 in. x 10 ft.	= 1,120 ...	6 $\frac{1}{2}$ cwt.
48 in. x 9 ft.	= 1,008 ...	5 $\frac{3}{4}$ cwt.
48 in. x 8 ft.	= 896 ...	5 cwt.
48 in. x 7 ft.	= 784 ...	4 $\frac{1}{2}$ cwt.
48 in. x 6 ft.	= 672 ...	4 cwt.
32 in. x 12 ft.	= 896 ...	5 cwt.
32 in. x 10 ft.	= 746 $\frac{2}{3}$...	4 $\frac{1}{2}$ cwt.
32 in. x 9 ft.	= 672 ...	4 cwt.
32 in. x 8 ft.	= 597 $\frac{1}{3}$...	3 cwt.
32 in. x 7 ft.	= 522 $\frac{2}{3}$...	3 cwt.
32 in. x 6 ft.	= 448 ...	2 $\frac{1}{2}$ cwt.

THE NEW HOUSING BILL

The Housing (Additional Powers) Bill, of which brief mention was made in last issue, has been read a third time in the House of Commons. Briefly the provisions of the Bill are:

(1) To make grants to persons or bodies constructing houses for the working classes, the aggregate amount of grants not to exceed £15,000,000.

(2) To meet expenses incurred in converting houses into flats.

(3) To prohibit building operations which interfere with the provision of dwelling houses.

(4) To prohibit, under a penalty, the demolition of any house reasonably fit and capable of being made fit for habitation.

(5) To empower local authorities to raise money by the issue of local bonds.

(6) To enable local authorities to acquire land for garden cities or town-planning schemes.

Dr. C. Addison, the Minister of Housing, during the course of the debate on the second reading, said that the reason of delay in building was the difficulty of obtaining an economic return in rent, and that difficulty still existed in a greater degree. To meet the emergency they must look to local authorities, with the State behind them, and to provisions for local authorities to call private enterprise to their assistance. The schemes on which the fourths of the local authorities were engaged had abundantly justified the method adopted. The delay up to the stage of acquisition of land and preparation of plans had been disastrous. The main causes of delay were the high cost of materials and the existence of other attractive forms of work for builders. He arrived at an agreement with the building trade for the erection of a minimum number of houses under the national scheme. If it paid men to build houses now they would be building them, and there was no market for them at the present cost of erection. Under these proposals, they had decided that the subsidy be from £160 to £100, according to accommodation. Constructional standards should comply with local by-laws, and the houses would have to be well constructed and properly finished. They could not make a scheme retrospective to apply to houses already begun. The subsidy would be given to anybody who could build houses of the kind required in a satisfactory way. The houses must be begun within twelve months, but as a certain number of houses at the end of that time might not be completed, it was proposed to give the months' grace in respect to them, deducting the amount of the subsidy by the twelfth for each month beyond the twelve months. Dr. Addison believed that, with the subsidy, it would be possible for a large number of private builders to build houses which they would be able to dispose of as a commercial proposition. A large number of offers had come in. Provision was also made for additional assistance to public utility societies. The proposal of the Committee that the Government should make it easy for local authorities by the issue of housing bonds, to finance their own housing schemes was supported. Since the debate the other day the building trade had been co-operating heartily with the Ministry in furthering the schemes of local authorities. He

n that if the House passed this Bill would materially relieve the housing problem. J. Tudor Walters said that he had doubt that they would receive sufficient contributions to build 100,000 houses in the twelve months if materials and labour were available. If on the 100,000 houses gave a bonus of £150 a house, costing £200,000, they ought to save £200 on the next 100,000 houses that the authorities built.

SING IN GREATER LONDON.

Captain R. L. Reiss, chairman Garden City and Town Planning Association, in his recent lecture at the Whitechapel Art Gallery, said that to deal with the housing problem in Greater London they would have to decide: (a) Where the new houses should be built to meet the existing and prospective shortage, and (b) on what lines of clearance and improvement schemes should be carried out, but both of these questions must be considered in relation to the general development of London as a whole, as well as to the location of industries and the provision of transit. It was important not to take a merely local view but to consider the individual needs of the various districts in London without regard to the whole area. It was because a broad and a long view had not been taken in the past that they were now in their present chaotic condition both as regards housing and town-planning. The only possible ultimate solution of the London problem was to stop the continuous growth of London and to create satellite towns, with their belt of agricultural land. The towns should be within easy reach of London, and should have their own industries, and therefore the majority of their population would not merely reside but work there.

While that was the solution of the problem for which they must work and keep in mind throughout, it would be necessary to take certain steps to provide for immediate needs both in and on the outskirts of London. It was essential, however, that the provision for immediate needs should conflict as little as possible with the long-term aim. The housing programmes of the London County Council and the local authorities should take into account broader issues in deciding upon their immediate policy. The aim should not be to get a larger population within the City Council's own areas, but an improvement in the housing of the existing population. The scheme east of Barking, which was by far the largest, required careful consideration. The Council was proposing to buy 3,000 acres of open country. The following steps should be taken in order that this new estate should be an ultimately self-contained borough. Before: (a) There should be a strip of agricultural land left between Barking and the new area; (b) none of the land south of the Lea Road should be used for houses, on the contrary, every facility should be given to industry to locate itself there, those industries which wish to extend east London should be encouraged to locate out there; (c) an agricultural area should be preserved on the north of the estate, separating it from the developments of Romford and Ilford. (d) A permanent agricultural strip should be left on the east of the estate, so that the development of Epsom and Tilbury should not ultimately interfere with the new housing area. The agricultural strips could be utilised

partly for allotments and partly for quite small holdings for discharged soldiers and others. If these various proposals were adopted the new estates would carry out the principles required in connection with their ultimate policy. If, on the other hand, the housing estate was merely regarded as a dormitory for people working in the centre of London the problems of transit would be still further accentuated.

Side by side with this and their other new housing schemes the County Council would have to prepare schemes for clearing their slum areas and carrying out improvements. So far as possible the areas cleared of slums should be used either as open spaces or for rehousing. In certain cases they could be used for commercial offices, but it is desirable that except in abnormal circumstances they should not be used for factory development, as this would merely mean a larger number of people being employed at the centre and, therefore, further accentuation of the transit difficulties. The size of the slum problem was, of course, immense, and probably at least half a million people would have to be displaced and rehoused in order to bring things up to anything like a reasonable standard. In very few cases have metropolitan Borough Councils got much building land available in their area. Where they had there was no reason why they should not build workmen's houses, provided that they consider such building as an opportunity for clearing slum areas and not as a means of increasing working-class population. They also had, of course, the important duty of improving the conditions of the existing accommodation by better administration of the Public Health Acts and of the Housing Acts.

The housing schemes of the local authorities of Outer London must, of course, be carried out on lines similar to those existing at the Hampstead Garden Suburb. They should, however, be restricted in volume in view of the necessity for avoiding too much building on the outskirts of London. It was the duty of the London Housing Board to co-ordinate these schemes and to consider the whole future of the development of Greater London when considering each of the schemes proposed.

Broadly speaking, the population of the whole Metropolitan Police District should not be increased, but merely an improvement in housing carried out. Every step possible should be taken to encourage factories to be built right out in the satellite towns, and, above all, to avoid their being extended in the central parts of the town. Where, however, such factories were necessary or desirable they should be grouped in specially selected industrial areas in the suburbs, and for this purpose the town-planning schemes of the Outer London Authorities should be pressed forward and closely co-ordinated. For the most urgent immediate needs a certain amount could be effected by the adaptation and conversion of empty large houses into working-class flats. This, however, must be regarded purely as a stop-gap measure.

[Captain Reiss's suggestions for the development of Greater London are wholly admirable. If only our civic forefathers had displayed foresight of a similar nature we should not to-day be confronted with the slum difficulty, which is so pressing an item in the general problem of social regeneration.]

LEGAL.

Builders' Repairs: Post-War and Pre-War Prices.

Fennecy v. Hearn.

Heard in the Official Referee's Court. Before Mr. Verey.

The Official Referee (Mr. Verey) was engaged during two days in hearing a claim by an Erith builder named Frederick Fennecy against Mr. J. Hearn, of Lindley View, North Park, Eltham, for repairs of the "Nordenfelt" tavern at Erith, of which he is the licensee. The plaintiff's claim was for £81 6s. 8d., balance of price for work done and materials supplied in connection with the repairs of the tavern in accordance with instructions received from the defendant.

Mr. Ennes appeared for the plaintiff, and the defendant was represented by Mr. Schwabe, K.C., with Mr. Davenport.

According to counsel's statement, the claim was on a bill for £256 6s., of which £175 had been paid, leaving £81 6s. 8d. Since the action was brought £30 had been paid into Court with a denial of liability, leaving the amount in dispute standing at £51 6s. 8d. It might, said counsel, appear that the action was being brought for a trivial amount, but plaintiff was fighting the case on principle, as well as to enforce what he conceived to be his just rights. His view was that there was a deliberate attempt on the part of the defendant to pay pre-war price for post-war work without regard to what materials were costing in November of last year, when the work was done. Before the work was put in hand plaintiff went over the premises, which consisted of the public-house and premises. That was in October, 1918, and defendant, who was with him, told him what to do and the work, which was considerable, was all set out in a specification. There was no architect on the job, and the builder merely put down the items of work to be done, measuring such work as required measuring at the time. A very large amount of work was done. It was what might be called a post-war redecoration of a public-house inside and out. In addition there was a considerable amount of constructive work. The defendant wanted a price given for the work, and a correspondence on the subject took place, in the course of which the plaintiff estimated the cost at £250. The plaintiff, who lived near, was practically on the job every day, and he charged on a time and material basis. Until the work was finished no complaint was made as to the manner in which the work was done. As showing the difficulty under which plaintiff had to do the work, counsel mentioned that during the whole of the time occupied by the job the public-house was in constant use.

The plaintiff gave evidence bearing out counsel's statement, and other witnesses testified to the good quality of the work.

Defendant and his witnesses said that the work, particularly the painting, was badly done, and Mr. Walter Richard Hood, a member of the firm of Hood Brothers, building and quantities surveyors, of Union Court, said that he had made a survey of the work, half of which was badly done. He had priced the work having regard to the fact that some of it was so badly done that he could not allow first-class price for it. The final figure at which he had arrived as proper for the job was £198.

The Official Referee in the result found

for the plaintiff for £50 in addition to the £30 paid into Court, with costs.

Dilapidation Claim against a Surveyor.

Paynter v. Boulting.

Heard in the Official Referee's Court. Before Mr. Verey.

This was an action by Brigadier-General George Camborn Beauclerc Paynter, of Eaton Grange, Eaton, Leicestershire, for dilapidation damages, against Mr. Frederick George Boulting, surveyor, of 182, Oxford Street, London.

Mr. Poyser appeared for the plaintiff, and Mr. Foa for the defendant.

The action was brought in respect of the houses in Augustus Street, Regent's Park, of which the defendant was the lessee, the premises having been demised to him by a lease dated November, 1883. This, said counsel, was property let by an underlease which ran from September, 1883, for a period of thirty-four and a half years, so that it expired in March, 1918. The head lease dated from 1819, and was granted by the Office of Woods and Forests, and the sub-lease contained repairing covenants similar to those of the head lease, which required that the houses should be kept and left in tenantable repair.

Mr. Foa said that the houses were in a state of repair which satisfied the tenants.

Mr. Poyser said that the superior lease having fallen in, the plaintiff had had to pay damages because the premises had not been kept in condition, and he contended that he was entitled to have his money repaid by the holder of the underlease, who had failed to comply with the repairing covenants. When the plaintiff made a settlement with the Woods and Forests in regard to the amount to be paid for dilapidations he thought he had done well and was willing to meet the defendant in the same spirit if he would accept the liability to the Woods and Forests, but that he would not do, and hence the action. The evidence, said counsel, would show that the houses were left in a very bad state. It was a small property, the houses being let at 15s. a week, the landlord paying rates and taxes. The repairs which had been done amounted to something like £39 per house, besides which there were repairs of a structural character, but the defendant had only paid into court a sum which amounted to £5 9s. 3d. per house. The total amount of the claim was £299 8s. 10d.

Miss Maud Jeffreys, who had charge of the property for the Commissioners of Woods and Forests, and Mr. C. E. Varndell, surveyor to the Office of Woods and Forests, gave evidence as to the amount of repairs which were considered necessary to comply with the repairing covenant.

Asked whether he suggested that a man with a short lease would have to do the same amount of repairs as the holder of the head lease, Mr. Varndell said that the extent of the repairs would necessarily be governed by the repairing covenant of the lease under which he held.

For the defence Mr. Foa said that the great question was the true construction of the covenant; in order to decide upon that regard must be had to the age, the condition, and the class of property to which the buildings belonged when the lease began. He contended that the covenant had not been broken in any respect. He admitted, however, that the houses had not been painted outside in accordance with the

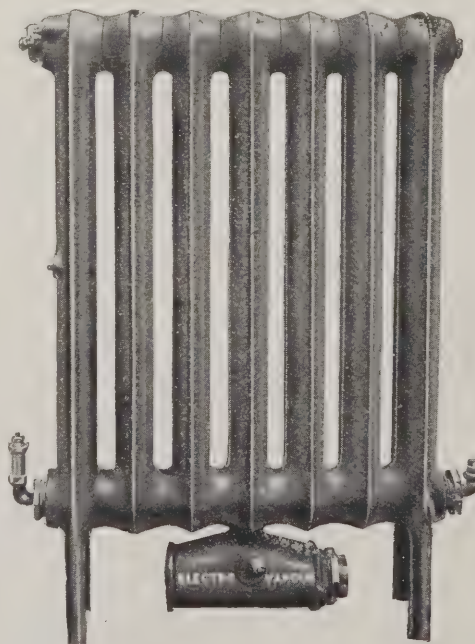
terms of the lease, and for that he was willing to pay at the rate of five guineas per house.

The Referee, after hearing the evidence, said that he must treat the covenant of the lease relating to the repairs as a covenant which was binding upon the defendant to keep the houses in a condition, after having due regard to the age and character of the property, which would be regarded as tenantable repair, but he would have to consider the figure to which the plaintiff was entitled.

TRADE AND CRAFT.

The "Electro-Vapour" Radiator.

The "Electro-Vapour" non-luminous radiator has been designed by Messrs. Benham and Sons, Ltd., of 66, Wigmore Street, W.1, to meet the public demand for an effective and economical electric radiator which eliminates the risk and danger of fire. The apparatus consists of a metal radiator with a small vapourising chamber fixed at the lowest point, and in this chamber is fixed an electric element, which can be easily and cheaply replaced in case of breakdown. The radiator is also fitted with a small water filler and safety valve. The power of each radiator is so designed that the whole surface gets to a pleasant radiant temperature very similar to that from central heating installations. Under ordinary working conditions there is hardly any pressure generated inside the radiator and re-charging with water is only required about once a year (before the winter season). The radiator is made in various standard sizes to suit the smaller sizes of rooms, and for larger rooms it is best to use two or perhaps three radiators. However, it depends entirely on the temperature required in rooms, also whether the radiator has to provide all the warmth for the room, or whether the radiator is intended as supplementary heat, such as in the case of a large room containing only one fireplace, and which requires additional warmth. In addition to heating living rooms, the "Electro-Vapour" Radiator is most satisfactory for



"ELECTRO-VAPOUR" RADIATOR.

halls and bathrooms and for airing linen rooms, also for damp cupboards. Specially designed "electro-vapour" radiators are made for linen rooms and cupboards which can be kept aired at an extremely low consumption of electric current.

Calendars.

Messrs. Cope and Timmins (London 1911), Ltd., general brassfounders, of 16, Alfred Place, W.C., have sent two of their wall calendars for the ensuing year. One, with monthly tear-offs, has daintily produced silk portrait pictures. The other, embracing two months of the year, has nicely coloured cartoons of several well-known business maxims.

Canada and Wooden Houses.

In a letter to Winget, Ltd., an industrial engineer in Ottawa, who is about to build houses of concrete blocks in place of the Canadian wooden houses, said: "It may seem strange to you, in view of the present agitation in England for the construction of wooden houses, that in Canada, should be considering the construction of concrete houses, but so it is, the high insurance now charged here for the insurance of wood houses, the high cost of painting and repairs, also the high cost of wages paid for carpenters (thirty times the cost before the war), compels us to find some means by which houses could be erected, with the minimum expenditure for labour, insurance, and repairs."

QUESTIONS IN PARLIAMENT.

HOUSE OF COMMONS.

Workmen for the Housing Schemes.

Dr. Addison, replying to Sir S. Hoare, stated that approximately 748,000 workmen were now employed in the building trade in the United Kingdom. About 200,000 men would be required per annum to build 300,000 houses at a year rate of 100,000 houses, assuming the men were continually employed.

Barking Housing Scheme.

Replying to Colonel W. Thorne, Dr. Addison said that the L.C.C. had applied for sanction to acquire about 3,000 acres for housing purposes near Barking. Objections had been lodged, and the scheme had not yet been sanctioned. It was part of the scheme that additional transport facilities should be provided.

Sanatoria Buildings.

To provide more sanatoria accommodation the Committee of Supply on the Civil Service Supplementary Estimates 1919-20 have voted £10,000 towards a scheme involving about £250,000 on buildings. It was pointed out that as far as possible an arrangement will be made for the local health authorities to enlarge their sanatoria, and for those authorities to take over the buildings at the end of five years on favourable terms.

The Cenotaph.

The Committee of Supply on the Civil Service Supplementary Estimates 1919-20 have voted £5,000 as part cost of the Cenotaph, the total being £10,200. It was stated that the intention of the Government was to erect the permanent replica in Whitehall, where the existing Cenotaph stands. £10,000 was asked for the erection of the memorial and £200 for the provision of adequate lighting around it. Sir Edwin Lutyens, A.R.A., was giving the services.

TOWN DEVELOPMENT AND HOUSING.

Downham Market.

The first dozen houses are now being commenced.

Kineton.

Sixteen houses are to be put up at once and sixteen more are to follow.

Manchester.

A proposal is on foot to erect 300 concrete houses at Didsbury.

Oswestry.

The Council has decided to acquire by compulsory powers six acres of land for housing purposes.

Newcastle.

The Corporation are buying a site for 123, on which to erect forty-one houses at £686 each.

Leamington.

Sanction has been received to accept tenders to build thirty-four houses for £563. The site is being cleared.

Plymouth Conference.

The Plymouth authorities are preparing a housing scheme and, having already selected various sites, will shortly formulate definite proposals.

Hanley.

Sanction has been received for borrowing £33,000 towards the housing scheme. It is now proposed to erect 270 houses on the Lammascote site.

Broadstairs Scheme.

The Urban Council have purchased a site in the Beacon Road for erecting houses thereon, and they expect to enter possession at an early date.

Sheffield.

Builders not already engaged in a municipal building scheme have expressed their willingness to build 1,500 houses on municipal land.

Leigh.

High Corporation have accepted the proposals of a local builder for the erection of 50 houses in the borough at a cost of £10,040.

New Mills.

Plans have been provisionally passed for building out about sixteen acres of the Knoll Estate in drives, each a quarter of a mile long. An electricity main and concrete houses are to be provided.

Alfreton.

The Urban Council are still meeting difficulties over the sites they select, the latest one for the Swanwick estate has been objected to on account of mineral reservations on the land.

Paignton.

Plans for the Marlton Road scheme have been forwarded for final approval. Sanction has been received for borrowing £9 to purchase the St. Michael's site. The erection of houses at Collaton has been approved.

Ashton.

P. S. Worthington, of Manchester, has been nominated by the President of the Royal Institute of British Architects as successor of the competition for the laying out of the Heys estate, which the Ashton-under-Lyne Town Council have purchased for a municipal housing scheme. The erection of houses to be built on the estate is 60 per cent. five-roomed houses, 30 per cent. six-roomed houses, and 5 per cent. seven-roomed houses. Plans have

been passed for the erection of four new houses in Mellor Road, Ashton-under-Lyne.

Ontario's Housing Activities.

Ontario municipalities have built 1,500 houses under the Government housing scheme, which was launched through the setting aside by the Dominion Parliament of 25,000,000 dollars in the form of loans to the provinces. It is believed that next year Ontario will build 4,000 houses under similar conditions.

Alnwick.

The U.D.C. propose to acquire from the Duke of Northumberland 12.507 acres of land for housing. The Duke's Commissioner requires £6,722 for the land, and the district valuer reports the value to be £4,436, which price the Commissioner declines to accept. The Council have, therefore, suggested arbitration on the subject.

Wakefield.

The City Council has received sanction to borrow £31,000 for erection of dwellings on the Elm Street site. Proposals have been made to arrange the allocation of the houses to be built among the members of the Federation. It is now proposed to erect 490 houses on the Portobello Estate, and to ask for sanction to use the Alverthorpe site for the erection of permanent dwellings.

Scottish Housing Schemes.

Mr. John Willet, architect, Elgin, has been appointed architect for the Cullen housing scheme. For the Kilwinning scheme the architect is Mr. John Arnosour, of Irvine and Sanquhar. Mr. James Kerr, architect, Lanark, has completed plans for twenty-six three-apartment and four four-apartment houses. Galashiels has a housing scheme in hand, under Mr. Elliot Grieve, architect, Selkirk.

West Hartlepool.

The proposal for the erection of 200 houses under the first section of the Rift House scheme has been forwarded for approval. It is proposed to invite tenders for the erection of the houses. The layout plan of the Raby Road site has been approved; and the Housing Committee agreed to consider the purchase of some partially developed sites in addition to the Corporation's scheme.

Housing Bonds.

A meeting of the National Housing Campaign Committee has been held in London under the presidency of Major J. R. Pretymann Newman, M.P., to support the proposals of Mr. A. G. Westacott, a City accountant and auditor, for improving the Government housing scheme. Mr. Westacott said the whole of the money for building should be provided by private capital, but two-thirds of the excess cost should be treated as a loan to the State, against which the State should issue housing bonds to the financing parties, payable at par at the end of twenty years, and meantime bearing interest at 5 per cent. per annum. All the State would be asked to provide would be the small annual sum for interest and sinking fund for redemption of capital. Assuming the number of houses to be built at 500,000, and the cost at £750 each, the total outlay would be £375,000,000. This would be provided by private enterprise. The housing bonds would represent one-third of this total, or £125,000,000, and the annual charge for 5 per cent. interest and sinking fund would be less than £10,000,000.

NEWS ITEMS.

Carshalton.

Carshalton's war memorial is to be a hospital.

New Hotel at Scarborough.

It is proposed to erect a large new hotel on the South Cliff.

Scottish War Memorials.

Plans are being prepared for an octagonal-domed mausoleum at Cullen.

Burton-on-Trent War Memorial.

The Council is purchasing the Manor House as a site for a new secondary school and a war memorial.

Mr. A. E. Lacey, A.R.I.B.A.

We regret to announce the death of Mr. A. E. Lacey, A.R.I.B.A., of Ashford, Kent.

Pwllheli War Memorial.

As a result of a referendum taken, it has been decided to erect an hospital as a memorial for the whole of the Lleyn Peninsula.

Campbeltown Memorial.

The Committee has recommended the erection of a monument. A site has been decided upon, and the committee is now arranging for a design.

Woolwich.

Woolwich have decided upon purchasing a large site for the erection of the war memorial hospital, and well over £30,000 has been received towards the funds.

Architect's Change of Address.

On and after December 22 the business address of Mr. E. Guy Dawber will be 18, Maddox Street, Hanover Square, W.1. Telephone: Mayfair 4935.

Workshop.

The Lady Chapel of the Priory Church is to be restored, as a war memorial, under the superintendence of Mr. Harold Brakspear.

Newmarket.

Nearly £3,000 has been promised of the £5,000 desired for the war memorial scheme. It is proposed to erect a memorial on five acres at the Severalls, and to lay out the rest of the land.

Institute of Civil Engineers.

At the last meeting of the Institute of Civil Engineers nine Members were elected, 106 Associated Members, two Associates, one Associate transferred to Member, and sixty-six students admitted.

Concrete Pipes for French Railway Oil Fuel.

A plan to construct pipes of concrete along the railway line from Havre to Paris, which will be used to bring the new fuel mazout (crude oil) to Paris instead of coal, is under discussion.

Devizes Memorial.

The Devizes War Memorial is to take the form of a monument and an endowment fund for the dependents of the fallen. The amount aimed at is £5,000. Towards this some £3,500 has already been raised.

Victoria and Albert Museum.

A number of important examples of English furniture and woodwork have recently been acquired by gift as well as by purchase. Among the chief gifts is a chair of the time of Charles II., selected by Sir George Donaldson from his museum at Hove. Another important gift was made by Mr. Thomas Sutton of a fine collection of English tea caddies brought together during the past thirty years by the late Mrs. Sutton. The furni-

ture acquired by purchase includes a mahogany chest-of-drawers in the manner of Chippendale, a Charles II. walnut cabinet on stand, a miniature bureau or writing cabinet of the time of Queen Anne, and an Elizabethan armchair.

Architectural Practice.

Mr. E. Wallis Long, M.S.A., M.I.Mun.E., architect and surveyor, is shortly resuming private practice at 56, East Street, Brighton, after War Department service with the Road Board as resident engineer of the Salisbury Plain and Fovant areas.

Rebuilding the Battle Zone.

At a meeting of the Sociological Institute, London, an interesting lecture was given by Mr. Huntley Carter on "Some Notes on the Rebuilding of the Battle Zone." The task of removing the scars of battle from the ruined countryside, the speaker said, would be gigantic. The Lens coalfields would take years to restore. No rebuilding had really yet started, with the exception of the refronting of the houses at Ostend, and the reroofing of those at Dunkirk, which had been damaged in bombardments. France had no definite rebuilding policy, and was the hunting ground for foreigners with all kinds of schemes. He had come to the conclusion that nothing would be done till the matter was taken up by the French people themselves.

R.I.B.A.: Proposed Suspension of By-laws.

At the special general meeting on December 1 some members stated that they had received their notices for the meeting less than seven clear days in advance as required by the by-laws. On enquiry being made it appeared that a few copies of the Journal had not been posted by the printers at the proper time owing to the impossibility of getting their men to work at the week-end. The by-law has therefore been technically violated, and to put the matter right, the Council decided to summon a further general meeting.

Birmingham Architectural Association.

Complaints against the Birmingham City Council were voiced at the annual meeting of the Birmingham Architectural Association by Mr. H. T. Buckland, F.R.I.B.A. One concerned the relations of the City Council towards the profession on housing problems, and the other the lack of support given the Civic Society. Speaking on housing, Mr. Buckland said: "It seems to me deplorable that a city which has educated a large number of architects, many of whom were men of recognised ability, should not give recognition to men on their return from the war. This is a time of exceptional difficulties both in the architectural profession and in the building trades. We have offered our services. The necessary work in connection with house-planning and laying-out of areas is being done by a Corporation department, and beyond the possibility of entering the few competitions, the architects are receiving no help. I deplore it." When housing schemes were maturing the Association approached the Council through the Housing Committee, but the only encouragement given was the opportunity of competing for plans for the Pineapple estate. "I have to regret that the City Council has not made the use of the Civic Society which it might have done, and which would have been to the distinct advantage of the city."

OUR SMALL ADVERTISEMENTS.

This week's small advertisements include a number of interesting announcements.

An expert in reinforced concrete desires to combine with architects who specialise in that class of work.

A draughtsman and estimating clerk is required for pricing ecclesiastical stone and marble work.

An architect's assistant is wanted by a firm in Great Portland Street.

Wolverhampton Housing Committee require a qualified architectural assistant. Salary £300 per annum.

A large quantity of steel rails, etc., is offered for sale by Messrs. T. W. Ward, Ltd., of Sheffield.

Tenders are invited for housing schemes at Didcot and at Wingate and Thornley, co. Durham.

BRITISH TIMBER TRADE CONFERENCE.

Convened by the English Forestry Association, a conference of the British timber trade was held in Westminster to develop the use and consumption of native timber, and to call attention to the valuable properties of English oak, beech, elm, and other hardwoods.

The Chairman (Lord Selborne) said this was the first time that this country had a national forestry authority in existence. There was a time when these islands must have depended, practically exclusively, on home-grown timbers for all purposes. Why British oak should have been supplanted by Austrian, or Memel, oak had not yet been adequately explained. The explanation usually given was that foreign oaks were easier to work. Not only was there no oak in the world more capable of bearing strain than home-grown oak, but none was more beautiful in the grain when cut properly.

Mr. J. C. Calder, Controller of Timber, said that the great difficulty in the past had been marketing. Everything was wanted nowadays in a hurry, and they must ask the large merchants to stock English timbers in the same way as foreign timbers. Why should not there be sufficient stocks of graded English oak? There was room for both home and foreign trades. Unless competent committees were formed between the association and the trade the chance of home-grown timber was remote.

Lord Lovat, chairman of the Forest Authority, appealed to all interests to encourage native timber supplies on account of the effect on forestry. Such timber had a bad as well as a good name owing to the timber being badly converted and to the fact that it was being used for unsuitable purposes.

It was resolved to form a joint committee of the timber trade and the Forestry Association.

The Chairman, in acknowledging a vote of thanks, read a letter from Messrs. Malinson and Sons stating that, with the high prices ruling for Austrian and Russian wood, there was no doubt that British oak would come into its own. He knew a ship-builder who paid twice as much for Austrian oak, rather than use British, the only reason being, he believed, prejudice because the job of cutting was easier. They had to overcome that prejudice, and he hoped to renew the conference shortly and bring together gravers, merchants, and users.

PUBLIC UTILITY SOCIETIES AND HOUSING.

A deputation, organised by the Joint Housing Committee of the Federation of British Industries and the National Alliance of Employers and Employed, has pointed out to the Minister of Health the impossibility of public utility societies undertaking building under the Act of 1919.

Sir Algernon Firth (a vice-president of the Federation of British Industries, a chairman of the Joint Housing Committee) submitted a statement, which showed that the present rate of progress was not satisfactory, and that few public utility societies had proceeded with building. The Joint Committee suggested that if the private capital invested in societies could be guaranteed some nominal return—4 per cent.—until rents were allowed to rise to proper post-war economic level, was probable that many would accept a reasonable risk whatever might happen at the end of that period. Under this arrangement the Government would save at least 2 per cent. than would be the case if the houses were built by local authorities. In addition, public utility societies find at least one-fourth of the total cost of the houses, and relieve the Exchequer to that extent. Sir Algernon said that the Joint Committee put forward last March an alternative proposal, that a block grant should be given for every working-class house built within one year. Mr. Henry Vivian, of the Co-partnership Tenants' Association, would put forward a similar proposal, which the Joint Committee approved of this.

Capt. R. L. Reiss, on behalf of the London Cities and Town-planning Association, said some fifty new societies had been registered by his Association this year, in addition to those existing before the war, but very few had found it possible to proceed. Numerous inquiries had been received from employers, workpeople, and co-operative societies, but in view of the unsatisfactory terms the Association had discouraged these persons from forming societies. At a conference of public utility societies a proposal similar to that of Sir Algernon Firth had been approved unanimously. He protested against the rate of interest chargeable on loans to public utility societies being raised to 6 per cent.

Mr. Henry Vivian put forward a proposal that the State subsidy should be based on a grant of a definite sum per cubic foot, and not on a percentage of the cost of building.

Major Hoare reported that, although a number of societies had started building, they had failed to obtain from the Public Works Loan Board the money promised them under the Housing Act. Some of these societies were stopping work owing to lack of funds.

Dr. Addison said he realised fully the difficulties of societies under present conditions, and promised to give consideration to what had been said, as he was anxious to secure the co-operation of every agency for the provision of houses.

COMING EVENT.

THURSDAY, DECEMBER 18.

The Concrete Institute, Denison House, Westminster, S.W.1. Paper by Mr. M. R. Adams on "The Use of Elliptical Voids in a Primary Factor in Contemporary Architecture." Lantern slides will be shown. 7.30 p.m.

The Architects' Journal
Wednesday, Dec. 24, 1919

The Architects' Journal
Volume L. No. 1303

THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS

With which is incorporated "The Builders' Journal."



COMPOSITIONS BY BOUCHET (VIII.).



PALAZZO BRANZO-LOSCHI-FOLCO, VICENZA. SCAMOZZI, ARCHITECT.

THE ARCHITECTS' JOURNAL

Architectural Editor: Professor A. E. RICHARDSON, F.R.I.B.A. Literary Editor: J. FINDLAY McRAE
Organising Editor: G. J. HOWLING. Assistant Editor: EVERARD R. H. READ.

27-29, TOTHILL STREET
WESTMINSTER, S.W.

Wednesday, Dec. 24, 1919

Volume L. No. 1303

Fame and the Architect

ONE hesitates to infringe the copyrights of Mr. Chesterton, who has taken out a patent in paradox; but it may be confidently asserted that even say of the average Londoner (to paraphrase the late Ambassador's remark about Mr. Gladstone), "he knows something of everything—except London." The philosopher might find much food for reflection in trying to account for this anomaly. But two things, the reverse of recondite, present themselves: the Londoner never looks up, and never asks questions. Of all things in London its architecture is that of which the citizen seems least instructed. It is not that this should be so, but it is a fact, and men would blush to be thought ignorant of the painter's picture or the writer of a book cheerfully acknowledge utter ignorance as to the designer of a building. The writer daringly, as he then thought, offered to an authority in topography to lay a wager that if you asked the first dozen intelligent men you met to name the architect of a single building in London (with the possible exception of Wren in connection with St. Paul's) they would be unable to give you a correct answer. But this somewhat drastic summing up of the mental condition of Londoners on this subject did not appear to our friend as the paradox we confess it seemed to us, and he gave some instances in point which more than corroborated our assumption.

In the eighteenth century a certain knowledge of architecture was regarded as an integral part of the liberal education of a gentleman, and, in consequence, not only the bulk of this class cognisant of the designers who worked before their day, and of those who were working contemporaneously, but not a few notable men amateur architects themselves. It is only necessary to mention such names of those of Lord Pembroke, Lord Burlington, Capt. Grey, and Athenian Stuart, to see this; and in London and the suburbs evidences of this knowledge in this direction still exist. To-day, however, where will you find, not the amateur architect, but he is perhaps just as well, but anyone who has even a academic understanding of the science or art (which will); nay, who exhibits the smallest interest in such things? Size affects the imagination of that curious type, the so-called "man in the street," and if a structure is not large enough to catch his eye, then he seems very satisfied that he has got something for his money. It is superfluous to tell him that much of the best work of our days to be seen in London is not necessarily on a diocese or elephantine proportions—he has never needed anything smaller. Some over-friendly critics have called us an art-loving country, because, I suppose, we have given considerable sums for pictures and have spent much vaster amounts on buildings. But we are not. It is the small section of the community which has been responsible for both excursions into such patronage. The average man reckons little of either.

As it is with contemporary architecture, so it is with that of the past. Few people with the least trained eye to beauty of proportion can fail to admire the excellencies of St. Martin-in-the-Fields (to take an instance); but how many know who designed it? Ask anyone who has built Somerset House. You will receive the same reply that we once got from a man eminent in his own line, but who had never given a thought to such things. Why, only the other day a friend of ours confessed in the most complacent manner imaginable that he did not know who was the architect of the Houses of Parliament!

One would not assert that a man cannot be an excellent member of the community, a tender husband, and a good father, without possessing such knowledge. The point is that if that same man was asked for information on the Law of Libel, or the Silver Question, or Home Rule, or Devolution, he would be able to put up a fairly decent barrage to your attacking question, or, if not, would at least make some excuse for his ignorance, and not smile cheerfully while freely admitting his inability to answer your conundrum satisfactorily. How, one may ask, can this apathy (for ignorance largely arises from it) be overcome? It is a large and complex question, but one for which various solutions seem to present themselves. For instance, when a picture is exhibited in a public gallery the name of the artist is inscribed on the frame: when a piece of china is shown in a museum its *provenance* from Bow, or Chelsea, or Sèvres, or where not, is indicated, and so on. Thus, the man of ordinary intelligence and observation gradually comes to know the general characteristics of various schools of painting and manufactures of porcelain, and, even if he cannot exactly tell in certain cases the right painter or maker, he will hardly be likely to mistake a Rembrandt for a Reynolds, or a piece of Sèvres for a Bow or Chelsea group. Why, then, should there not be exhibited on a prominent part of the chief buildings of London an indication of their designers' names, and the dates of their erection, whether they came from the hand of Inigo Jones, or Wren, or from that of Bentley, or Butterfield, or Bodley?

One might well look forward to signed buildings just as one does to signed pictures or signed sculpture. On most public structures the only inscriptions are those which tell who opened them or under what mayoral *agis* they happened to be erected. This is not in itself a disadvantage, it perpetuates the date of a building, and it may conceivably impart certain information which time will make historic. But, after all, one of the most important pieces of information concerning an edifice (especially in these days when so little is generally known about our architects, past or present) is the name of the man who was responsible for its design and execution. As it is, there would almost seem to be a conspiracy of silence in this direction. The last person who is prominent at the inauguration of some new building is its architect; the last name associated with it in its maturity

and old age is that of the creator at whose wand it took permanent form.

As we have before indicated, how different in this respect have been the fates of the architect and the pictorial artist! While the name of the former is known to but relatively few, that of the latter is not merely widely recognised, but has actually come to stand, so to speak, in competition with much of his own work. How often has it not happened that a picture has achieved fame, or, at any rate, the fame brought it by huge sums of money solely because it is the output of a painter who happens to have an auction-room fashion. Why, only the other day this was exemplified in a quite surprising manner. Among the Hamilton works of art was one of Romney's achievements; no one, we believe, would go so far as to say it was a *chef-d'œuvre*. There are critics who consider it, as a painting both in technique and composition, second-rate. But it was Romney. Romney is in the fashion. Romney's name is a household word. And so we get a record in picture prices. But supposing that that canvas had not been a Romney, what then? Would it, on its merits as a work of art, have commanded a tithe of the amount it fetched?

How different it is with the sister art. No one raises a voice if a fine building is threatened, because it is the work of a pre-eminent architect. Stay; yes, voices are

raised if it is known to have been by Wren—one designer who is recognised by the public. People are ready to deprecate the demolition of an edifice, largely because it is sanctified by familiarity, not because it is had its genesis from some fine constructive brain. For instance, would people pass laborious days in writing to the Press in a forlorn hope of saving some threatened landmark, simply because that landmark had had its genesis from the hand of Gibbs, or Flitcroft, or Hawksmoor, or had owed its beauty to Barry, or Bentley, or Bodley?

Architecture has been called the Cinderella of the arts; but Cinderella had her apotheosis after a neglected novitiate. Architecture and its votaries seem to be in the nature of Cinderellas who are growing old, and if they do not revolt there will be no fairy godmother, no pumpkin, no ball, and no effulgent prince to lead them into the blaze of emancipation. Schools of painting come and go—even the Futurist and the Cubist have had their little day; the names of the fashionable painter is bandied on the lips of the fair shopper in Bond Street, or of the loungeur in Piccadilly, but who of all these whisper the name of the architect in vogue; who knows what he has designed any more than it is known who designed the desolate Tadmor or Nineveh, whose glory is but a name.

E. BERESFORD CHANCELLOR

Notes and Comments

The Prime Minister and the Building Industry.

IN his speech to the Building Trades Industrial Council at the Central Hall, Westminster, on December 16, the Prime Minister was not deserted by his customary optimism. Few builders will share it. Take, for instance, the passage in which he stated that a considerable stock of building materials—bricks, timber, slates, cement—had been supplied by the Government at net cost, and “now that we have got over that temporary difficulty” Government control of materials is to be withdrawn, possibly at the beginning of the New Year. It will be news to most builders that “we have got over that temporary difficulty.” This airy assumption of conquest is hugely discounted in letters that builders have sent to the Press. They complain that, though materials may be as plentiful as the Prime Minister states, and though the Government, having made a formidable corner in them, is now claiming credit both for holding them up and for releasing them, it is almost impossible to obtain delivery of the goods. Rather adroitly, but not at all convincingly, the Prime Minister attempted to throw a large share of the blame on the builders themselves. Railway trucks loaded with bricks are, it seems, detained on sidings in the character of warehouses on wheels! Builders, whose most pressing need is bricks, are, of all the possible perpetrators of this crime, the least likely to commit it wilfully. In any case, the side-tracking of a few bricks is a mere trifle compared with the complete failure “to deliver the goods” with respect to national housing. This failure the Prime Minister did not explain at all felicitously. He rode away from it with facetious observations on the capacity of Governments for accepting blame, and on the share that belonged to the builders, and this reply to Mr. Anderson, a South Wales master-builder, who said that if the builders had been consulted earlier much of the delay would have been avoided, did not fairly meet the accusation that their co-operation had been sought at the eleventh hour. The Prime Minister's complete repudiation on behalf of the Government of the odious and utterly false charge of profiteering that had been brought against it was welcome though belated; but his proposals with respect to the dilution of labour, the abbreviation of the term of apprenticeship, and other industrial expedients, will require very careful steering if trouble is to be avoided.

A National Housing Campaign.

If Government does not immediately throw off its lethargy, the honour of building “houses for heroes” will be snatched out of its palsied hands. A National Housing Campaign Committee that leads off with a rational solution of the financial problem must at once prepare against a Government stupefied by the appalling array of figures on its slate. Mr. A. G. Westacott, whose scheme the Campaign Committee is promoting, believes he can show how the sum can be done. Private enterprise cannot provide all the capital needed for building, but two-thirds of the excess cost is to be regarded as a loan to the State, which will issue housing bonds bearing interest at five per cent. and repayable at par at the end of twenty years. A “campaign” is necessary, it would seem, to explain the scheme and raise the money for it—largely, it is hoped, among the classes for whom the houses are to be built. This campaign, if conducted with energy and wisdom, cannot fail to be educational, whether or not it succeeds as a housing scheme. It should imbue the workers with a stronger sense of their responsibilities as citizens, and, in particular, should encourage in them the habit of self-reliance to match and counteract their growing tendency to self-assertion. To increase among them the proportion of property-owners is to stabilise morality; and less firmly a section of the community that just now is sadly in need of some sort of steadying influence to restrain it from mischief.

The Suspension of R.I.B.A. By-laws.

Very properly, the suspension of the R.I.B.A. by-laws continues to excite much interest, and, as our sole department is to see the matter thoroughly discussed, we welcome the correspondence upon it which has reached us, and we are equally glad to offer it hospitality, whether it be for or against any views on the matter which we may have happened to express. In particular we appreciate the courteous and reasonable tone of the letter from Mr. Fredk. R. Hiorns, which appears in the correspondence columns of the present issue. His statement of the reasons for the operation of the balloting by-laws is the most temperate of any we have yet seen. As a reason for the defence of blackballing it could hardly be bettered. It is but little more than that, and it wears rather well where it confesses impatience at “seeing perfectly sensible views which may happen to be in opposition to the official

designated as lacking in breadth and statesmanlike qualities." If that is what is the matter with them, why did not that charge be frankly made? It is not enough to be merely sane; one should also be careful lest too much sanity curdle the milk of human kindness. Our position is—and let it be quite clearly understood that it is independent and not an official view—that, as we begin when first dealing with the matter, the members are perfectly within their rights in demanding a ballot, and did not show much generosity in exercising those rights. Surely there are times when it is wise and kindly to insist on the fulfilment of every jot and tittle of the letter of the law; and it seems to us that such an insistence arose on the proposal to open wide the doors to the tube men. It seemed ungracious to oppose so humane a provision, and to express this opinion as the Council was not to "put a sinister construction on the motives and outlook of objectors to the Council's proposals." Whatever may have been said in the heat of debate, it is not in that no sinister imputation was really intended, but to stand a moment's calm examination. What is so regrettable is that the minority should have laid itself open to "sinister construction"—should have taken the course that put it in a false position on a matter in which its misconstruction is so fatally easy.

Dissension and the Remedy.

The assumption of "sinister motives" on either side in this controversy cannot be allowed. Fellows and associates alike are members of a profession than which none is richer in dignity, and none more honourable; consequently no section of it can possibly entertain the slightest suspicion that any other section of it is actuated by "sinister motives" or intentions. If this business of the tube has been a thought too hotly contested, the heat may be put down to excess of mental vigour, a fault that obviously "leans to virtue's side." Yet one could wish that so much energy should not be allowed to run to waste in domestic bickerings. There is much to do to consolidate the profession, to give it the unity that is essential to strength and influence, and we are sure that the respective parties to the present little difference of opinion do not for a moment contemplate its growth to the magnitude of a dispute. We could wish, however, that seniors and juniors, London members and those in the provinces, members and non-members of the professional organisations, understood each other much better; and we believe that this result would be achieved in large measure if the scheme projected by the President (and unhappily abandoned through his ill-health) of arranging a series of meetings, friendly, informal, sociable, in which the allied societies had been carried out.

Wooden Railway Platforms.

That there should exist wooden platforms on even the earlier constructed sections of a tube railway is a first-class scandal. It is not as if the tube system were an ancient institution, inaugurated before the discovery of inflammable materials and fire-resisting methods of construction. Less, no doubt, was known about these resources then than is known now; but some of them wasted—cement could not have been scarce in 1891, even when the City and South London tube was built—and it is astonishing that nobody insisted on their use in a situation in which the utmost precaution against fire is an imperative obligation. A question on the subject was raised in the House of Commons last week, and in reply it was stated that the tunnel of the tube railway concerned is about to be enlarged, when the little matter of wooden platforms will receive attention. They should be allowed to exist another week, even where the question is at no great depth from the surface; for even the remotest possibility of a fire at a tube station fills the mind with horror. We may be thankful, however, that stout planks of an ordinary platform do not easily catch fire, while wood-block floors are stubbornly fire-

resistant. Nevertheless, all woodwork, of whatsoever kind, should be rigorously excluded from tube stations.

Sir Aston Webb and St. Mary Abchurch.

To travel as far east as the Mansion House is no new experience for Sir Aston Webb, whose fine restoration work at the church of St. Bartholomew-the-Great must have taken him thither many a time and oft. As eminent architect and as President of the Royal Academy, Sir Aston had a double claim to a hearing when he spoke at the Mansion House last week with the object of rousing City men to a sympathetic interest in the plight of one of Wren's churches. He had, he said, examined the roof-timbers of the church of St. Mary Abchurch, off Cannon Street, and found them in a dangerous condition. They had become so warped as to have shifted from their bearings, and Sir Aston estimated that the cost of repairing the damage would be about £5,000, a figure which happens to coincide with the sum for which, in 1686, Wren undertook to build the church, which is one of the least impressive of his designs. Its interior, however, is decorated with carvings by Gibbons and paintings by Thornhill, while the dome is of masterly construction.

Discovery of Roman Remains at Ham Hill.

Ham Hill, the seat of the famous stone quarries, has been long known as the site of an important Roman settlement, and its distinction in this respect has been enhanced by the discovery of the foundations of a Roman villa. A district called Stanchester, in the parish of Stoke-under-Ham, had been for many years suspected of concealing Roman remains, but all efforts to discover any within that area were unsuccessful. Recently, however, Stanchester came under cultivation for the first time for thirty years or so, and the plough turned up fragments of Roman tiles, pottery, etc. Then ensued a trying time for the antiquarian, who had to wait many weary months—from seedtime to harvest—before excavation was allowed. Soon after operations were begun, digging disclosed the well-preserved foundations of a Roman villa, a concrete floor with numerous tesserae scattered over it, portions of supposed roofing tiles of several shapes, fragments of painted wall-plaster, and other evidences of the existence of a dwelling of considerable size and importance.

Our Edition de Luxe

IN producing this year's Edition de Luxe, which we shall publish next week, our aim has been to make it not only architecturally attractive, but also extremely useful. It will contain sixty-eight pages of special articles, all profusely illustrated, and a variety of topical subjects, including the following: "The Design and Construction of Industrial Premises," by A. Alban H. Scott, M.S.A.; "The Industrial Village of Dormantown, Redcar, Yorks" (designed by Adshead, Ramsey, and Abercrombie); "Rapid and Economical Methods of House Building," by Clough Williams-Ellis, Oswald P. Milne, F.R.I.B.A., and others. Many important buildings of the year will be illustrated, including Wallasey Town Hall, The School of Oriental Studies, London, etc.; and several new schemes of building and reconstruction will be shown, including the new premises for Messrs. Dickins and Jones, Ltd., in Regent Street, a great new office block in Moorgate Street, new premises for Messrs. Babcock and Wilcox in Farringdon Street, etc. Major Barnes, M.P., F.R.I.B.A., has a thoughtful article on "The Future," and Mr. H. J. Birnstingl reviews the year's housing progress (illustrated by an interesting chart reproduced by special permission of the Ministry of Health). In addition to a useful summary of the principal events of the year there will be a variety of informative articles on matters of practical interest such as "Labour-saving Domestic Equipment," "Central Heating," by Ambrose W. Coffin, M.I.H.V.E., etc. As this issue is bound to go out of print soon after publication, readers should order their copies at once.

Architectural Causerie

WHEN Louis the Fourteenth invited Bernini to France, Poussin was happy to go, nay to escape. Bernini had during his stay in Paris five louis a day, five thousand crowns as a present, a pension of two thousand for himself, and five hundred for his son. The designs he made for the Louvre, however, copies of which are on the walls above my head, were never executed. Lord Burlington had a pretty taste in satire. When consulted by the citizens on the selection of a proper person to carve the boasted surface of the pediment of the Mansion House, his lordship replied, "Anybody could do well enough for such a building." The name of the original designer of King's College Chapel, Cambridge, is preserved by Hearne, who, in his preface to the "History of Glastonbury," says: "All that see King's College in Cambridge are struck with admiration, and most desirous of knowing the designer's name. Yet few can tell it." It is now known that one Cloos, father of Nicholas Cloos, one of the first Fellows of that college, and afterwards Bishop of Lichfield, was the designer. There is a tale to the effect that Sir Christopher Wren paid a yearly visit to survey the roof of the chapel of King's College. He is credited with having said, "If anyone will show me where to place the first stone I will engage to build such another." Luckily none could point out a site.

When Sir Robert Taylor was looking after the Bank of England he received instructions from the Directors to remedy an inconvenience to which the large doors of the building were liable, as they could not be opened or shut without extreme difficulty and delay. The artist, judging that taking off the hinges upon which they turned and making them advance and retire by means of a windlass, would obviate the difficulty, gave directions for the immediate execution of the plan. It was soon completed, and the doors moved to meet each other with great facility, and were perfectly closed; but the windlass, and the man who worked it, being stationed withinside, he was obliged to open the door again to let himself out. Sir Robert then thought of a small wicket in one of the large doors.

Most designers like to act the parts of producer and patron at least once in their lives, if only to teach their clients a lesson. On occasion they give the creations of their minds without thought of fee or remuneration. It is recorded that Giacomo Amiconi, a painter contemporary with Hogarth, was employed to paint the walls of a staircase at Lord Tankerville's in St. James's Square, long since destroyed. The artist's work represented stories of Achilles, Telemachus, and Tiresias. When his lordship asked the painter for the account he produced his bills for workmen's labour, scaffolding, etc., amounting to ninety pounds, and asked no more, content, he said, with the opportunity of showing what he could do. The peer gave him £200 more. Amiconi then was employed on the staircase at Powis House in Great Ormond Street, which he treated with the story of Holofernes, but with the fault of bestowing Roman dresses on the personages. It is recorded of the portico which Inigo Jones added to the old fabric of St. Paul's that Lord Burlington was so strongly impressed with its beauty that when the present one was unveiled by the removal of the scaffolding, he remarked, "When the Jews saw the second temple they reflected on the beauty of the first, and could not refrain from tears."

A designer of buildings on a sketching tour some time before the close of the eighteenth century, when this country was beginning its struggle with Bonaparte, came across a brick-built mill-house on the banks of a river. It was at the time of the enforcement of the window tax.

The artist made a sketch of the outline of the elevation, and was proceeding to space the windows, when the miller approached with a stout oaken towel.

"What are you doing, Mr. Gentleman?"

"Making a drawing of your mill."

"Making a drawing, to be sure; my old mill is a pretty thing to take. No, no, your business here is to peep at my windows, and see whether I ben't undercharged the number. Come, sir, off directly, and don't let me catch you here again, or I will give you a dressing with this" (flourishing his staff).

The period of the threatened invasion of England by the French was a sad time for the artists of England in search of subjects, more especially those who toured the coasts. To be caught taking even a sketch of an old pig-sty was enough, in some instances, to get seized and carried before a magistrate as a French spy, engaged in stealing plans of all the points of the country; and as magistrates were not in all parts much more imaginative than the rustics they controlled, it happened more than once that professional ardour was sent to cool itself within the walls of the village cages we encounter in out-of-the-way parts to this day. Capability Brown, the landscape gardener, having remarked in his neighbourhood a ruinous cottage, where the lines came in just as a painter could wish, and admitted a fine contrast of chiaro-scuro, he resolved to make a drawing of it; when he was at work an old woman came out, and, dropping a very low curtsey, said, "I am very glad your honour's come to look at it yourself; I have told the steward over and over again that the house would fall down about twenty years, but he did not mind me. I hope your honour will order it to be done soon."

The search after the unusual in design has occupied the attention of all devisers of buildings for the past few hundred years. During the early years of the Italian Renaissance many fruitless attempts were made, and in the reign of Louis Quatorze the fancy reached France; later on the mania attacked English artists. In France a sixth order, absolutely new in all its parts, mouldings, and ornaments, was reported to have been invented by Peter de la Roche, who adopted the crest of the Prince of Wales, a group of three ostrich feathers, to adorn the capital of the new order. De la Roche, describing his wonderful invention, says, "I adorn the capital of my new order, and from the beauteous and graceful delicacy of the nodding plumes, from their enlarged size and bold projections, they must, when thus applied, rank far above the Corinthian." We are further told that this new order was absolutely new in all its parts, and that it must eventually supersede the Corinthian, as it only requires the sanction of antiquity to make it generally adopted, and, says De la Roche, when my order shall be hereafter found among the ruins of palaces and of cities, the effects of contemporary jealousy having subsided, the will posterity give the honour due to my invention.

Of something of this kind was Emlyn's odd composition of a new order, which, among other absurdities, was a single column at the bottom, and two at the top, like a forked elm. This inventor published a folio upon his new order, dedicated it to George the Third, in whose service he was at one time at Windsor. Batty Langley also invented the five orders of Gothic, the Tuscan Gothic, the Doric Gothic, the Ionic Gothic, the Corinthian Gothic, and the Composite Gothic, all of which absurdities had to be swept into the rubbish heap by Rickman and Pugin. So far from a new order being invented, not even a new member or moulding has been successfully added to the forms honoured by generations of artists.



First premiated design. M. Joe Smolderen, Architect. M. Dupont, Sculptor.



Second premiated design. Thomas S. Tait, A.R.I.B.A., Architect. W. Reid Dick, Sculptor.

Photos: Topical.

MODELS OF DESIGNS FOR THE PROPOSED ZEEBRUGGE MEMORIAL, NOW ON EXHIBITION AT THE R.I.B.A. GALLERIES.

London Town Planning in 1666

MR. SIDNEY PERKS, F.R.I.B.A., F.S.A., delivered a lecture on London Town-Planning in 1666 at the fourth general meeting of the I.B.A., held on December 15, with Mr. Guy Dawber in the chair. Mr. Perks said that after the Great Fire there was keen competition to be first in the field in submitting schemes for the rebuilding of the City, but Wren was ahead of all his rivals. Wren's three plans were all shown by lantern views, and the lecturer observed that Wren dealt with the problem in a drastic manner: he swept away the entire City within the fire boundary, and, regarding it as a vacant site, he started to make a town-planning scheme. Mr. Perks emphasised the fact that in these schemes Wren had allowed for only very small St. Paul's. The basis of Wren's plan was the formation of two wide roads from the east, one from Leadenhall Street in the direction of Aldgate and one from the neighbourhood of the Tower; they met at Aldgate, and St. Paul's Cathedral was in the acute angle of the junction—it would have occupied quite a small portion of the present site. Apparently Wren was willing to sacrifice a large cathedral for his angular scheme, for St. Paul's Cathedral would only have had about the same area as the Mansion House—had a large cathedral been built then the road plan was impossible. It all shows a rash, and even if the scheme had been approved the destruction of a large cathedral must have arisen and prevented the development of the idea. The plan struck as the first effort of a great man rushed out in a few days; it could not possibly have had careful consideration.

To-day, remarked Mr. Perks, we get no direct view of St. Paul's from the east, nor was provision for such a view made in any of Wren's plans. There were other defects in Wren's plans; with few exceptions none of the cross streets were at right-angles to the main thoroughfares, and all churchyards, gardens, and unnecessary vacancies were to be placed out of the town. Had the plan been carried out parochial and ward boundaries would have disappeared, some of them having existed since Norman times. Eighty-six churches had been destroyed or severely damaged, but Wren proposed to erect only seventeen, and made no provision to rebuild the six chapels destroyed. When Wren's proposals were examined the first thing to strike one was his absolute disregard of the old streets. Not one single old thoroughfare remained, a little St. Paul's occupied part of the site of the present cathedral, the Guildhall and the Royal Exchange would both have had different sites. Among others, the following old buildings would have disappeared: The Guildhall, with its magnificent crypt; the Crypt of St. Mary-le-Bow; Merchant Taylors' Hall; St. Alphage, London Wall; every old church in the City within the fire area; many of them, although partly destroyed by the Great Fire, still retain small portions of the mediæval buildings; and also certain portions of the Halls of City Companies. Except in the case of St. Paul's no attempt was made to place a new church on an ancient site, and every little green spot would have disappeared, and the City would have been one of bricks and mortar. If Wren's scheme had been carried out what an interesting place the City of London would be to-day.

Whoever it was who carried out the restoration of the Guildhall, said Mr. Perks, the treatment was very unsatisfactory; the designer had no knowledge of Gothic architecture, or he had a profound contempt for it, or he would not have acted as he did. The old Gothic roof fell half the floor collapsed, and with it some fine vaulting. The architect who restored the building made no attempt to replace the roof with a structure similar to the old. He levelled up the walls, built hideous circular-headed windows, and erected a low-pitched roof with a flat

ceiling. This was in keeping with the idea of rebuilding the premises, if regarded as a temporary expedient: and the same with the west portion of the Crypt. All the stones were on the site, the vaulting was simple, but the architect built what were usually called a series of railway arches in brick, using the old Gothic stonework, binding it in with the bricks or using it as rubbish to fill in the spandrels of the vaulting, and it was there to-day; the vaulting was just the same as an ordinary coal-cellar under a London street.

Hooke's plan for London had often been referred to, but could not be found. During a search at the Bodleian Mr. Perks came across a Dutch view of the Fire of London by Marcus W. Doornich, of Vygendam. In the corner there was a plan for the rebuilding of London, and it was quite possible that this was Hooke's, for in Waller's life of Hooke we read "all the chief streets from Leadenhall corner to Newgate, and the like, to be in an exact straight line and all the other cross streets turning out of them at right angles."

Mr. Perks dealt with the assumption that Wren's town-planning scheme was not carried out because of the opposition of the Aldermen and the City, the plan having been "unhappily defeated by Faction," as Gwynn said. In the lecturer's view, however, the scheme was rejected by the King's advisers because it was a gigantic Utopian proposal. Four hundred streets, numbering 13,200 houses, had been burnt down, and, say, 66,000 people were homeless. No doubt parts of the walls remained, and there was subsequently little difficulty in marking the boundaries of the properties. On the old sites the people could get back very soon—some properties were certified early in the following spring; but Wren wanted to "scrap" all the old streets and to form new roads of a length of over twenty-one miles; the roads were to be run through the remains of houses and churches only partly destroyed, and which, of course, would have had to be razed to the ground. Then he would have had to fill up old basements and cellars and form foundations for his new roads and then make the roads; the old supply pipes for water would have been useless, a considerable portion of St. Paul's Cathedral would have had to be removed, as it would have blocked up his two main thoroughfares. It was, indeed, a colossal scheme, and it would have taken years to carry out, and the cost would have been enormous; and in the meantime the people would have been homeless, and the trade of the City would have been stagnant, for until the new roads were made, no warehouses or business premises could be erected. No wonder the King's advisers came to a quick decision and rejected the idea. The lecturer briefly dealt with other schemes for rebuilding London after the Great Fire. Perhaps the most interesting were those of Evelyn, who planned a road affording a fine view of St. Paul's from the east end.

Professor Adshead opened the discussion by moving a vote of thanks to Mr. Perks, and devoted himself to a vindication of Wren's plan, particularly in view of the comparative poverty of European town-planning of the period.

The vote of thanks was seconded by Sir Banister Fletcher, prefaced with a gentle avowal of having for some years earned a few "modest fees" working in the shadow of St. Paul's. This speech, also, was an open championship of Wren, pointing out that, whatever happened to his plan, Wren's work went far towards making London one of the greatest cities of the world. Sir Banister extenuated the mixing of styles in the rebuilding of the Guildhall, by the plea that any architect of the period would have done it.

Mr. Woodward, Professor Richardson, and Mr. Kettle contributed to the discussion, at the close of which the vote of thanks was carried with acclamation.

Acoustics of Churches: Choral Music

By H. BAGENAL, A.R.I.B.A.

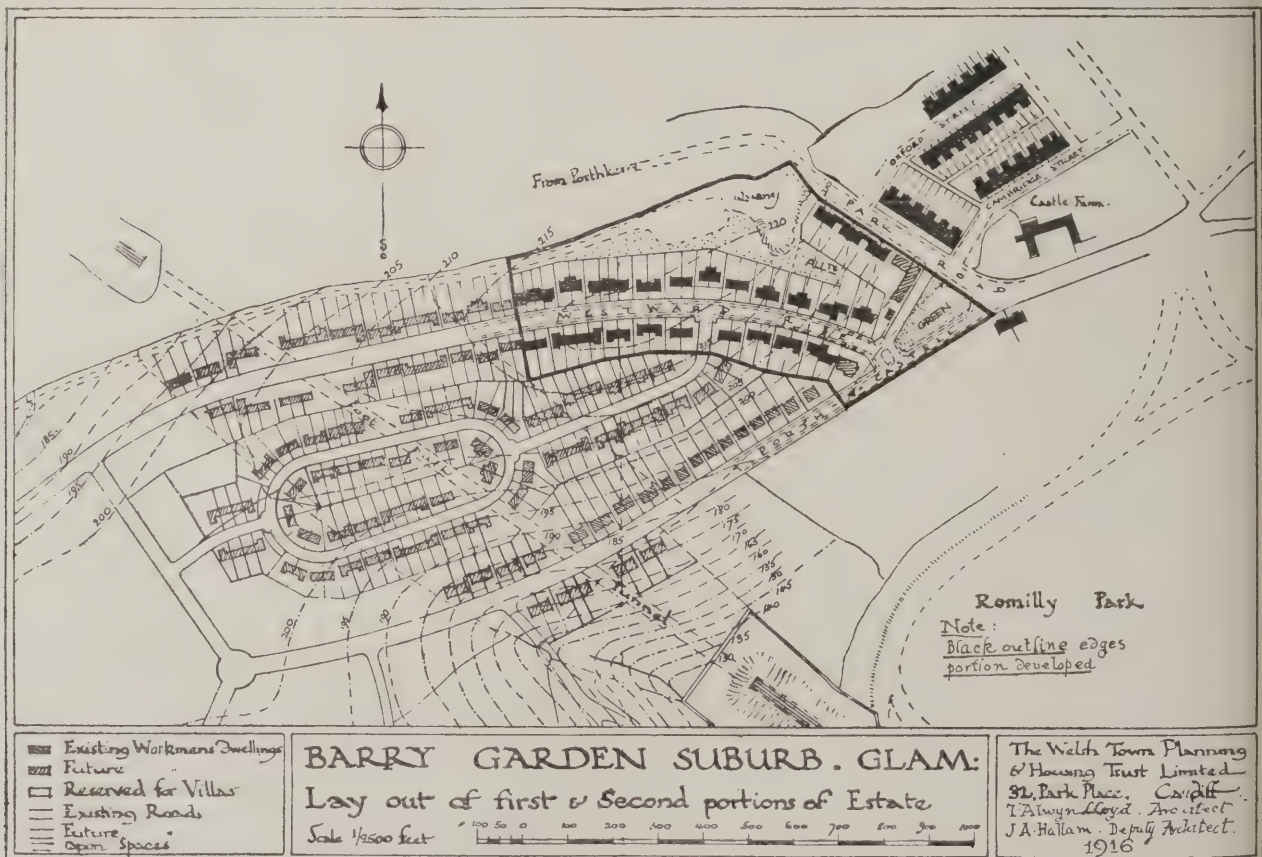
A LARGE church or cathedral which has to serve as an auditorium for choral music and for organ solos, as well as for the voice of a popular preacher, presents an extreme case of the chief difficulty in all remedial measures for existing buildings—namely, the fact that owing to gross ignorance of acoustics the fulfilment of quite opposite requirements is looked for in the same building, whether secular or religious. In secular buildings the Albert Hall is an extreme case. If that vexatious auditorium could be made to distribute a single speaking voice with accuracy it would no longer be suitable to the Leeds Philharmonic Choir, and vice versa. In order to provide sufficient accommodation to thousands of listeners to a single speaker a large auditorium must have quite definite properties both of shape and material, which, however cleverly they are treated, will render it inevitably different from the accepted architectural standard of a fine interior. That is to say, it will be both unfit for the delivery of choral music to a full audience, and will also be uninspiring to the eye.

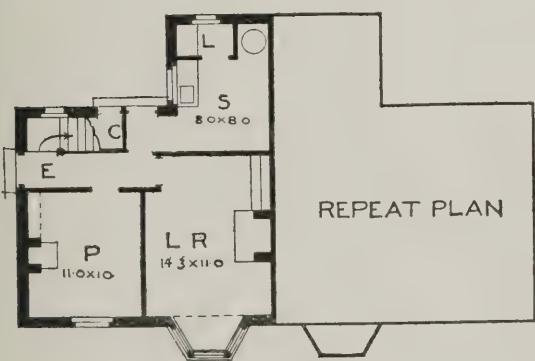
Now the nation has in its cathedrals something more practical than mausoleums; it has, if it cares to use them, the auditoria for choral concerts capable of accommodating huge numbers. Let us examine the problem from such a standpoint. First of all it is not unnatural to associate fine forms with fine sounds; but, on the contrary, great music requires a great auditorium. Let any man with a trained eye ask himself what irritation he has not suffered at the Queen's Hall during a good concert. Then let him go to Westminster Cathedral and hear the simplest chorale between Bentley's walls and compare the total æsthetic effect in each case. The stalwart musician is likely to assert that it is all one to him, but, in any case, it is not for architects to assume indifference. The nave or chancel of a cathedral will afford accommodation, and at least will not irritate the senses. It can supply the audience with what the audience requires. But how does the church itself fulfil the more important requirements of the practice of choral music. The answer

is that the satisfying of these requirements in a given church depends on its reverberation, which can now be analysed and modified.

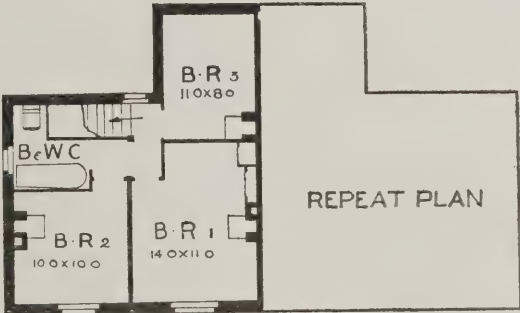
To understand the problem rightly it must be remembered that from the fourth century down to the sixteenth and including the culminating period of polyphonic music the church was the chief auditorium for music, since the chief music was church music. This fact seems to have a wide implication not uninteresting either to music or architecture. Either the church forms of the Middle Ages were altered to the acoustical needs of church music or else the schools of music developing through various phases were adapted to meet the acoustics of the cruciform church. For many reasons the latter must have been the case. Little enough reliable information is accessible on the history of mediæval music, but the little is generally connected with the name of some great church. Such names, to choose from many, are Ambrogio at Milan, St. Mark's at Venice, the basilica of Peter at Rome, the cathedrals of Amiens, Mayence, Treves Soissons, Dijon, Sens, Orleans, and later the Chapels Royal in England and France, and the Papal chapels at Rome. The close connection between music and Church Liturgy, and therefore between music and the Church auditorium, is so illustrated to-day in the practice of intoning. In a large church intoning or reciting is less a matter of choice than of necessity arising out of the reverberation. According to some authorities the first Christian notation of music was employed to help the priest the inflections and modulations required in the reciting of Gospel, Epistle, and Psalms. Through all Gregorian music this "reciting" note continued to have a definite function. It was, in fact, the dominant keynote in each mode, and therefore formed a direct link between the music performed and the reverberation of the church auditorium.

On the introduction of opera in the seventeenth century, after what is called the monodic revolution, concert room conditions began to affect choral composition.

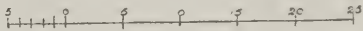




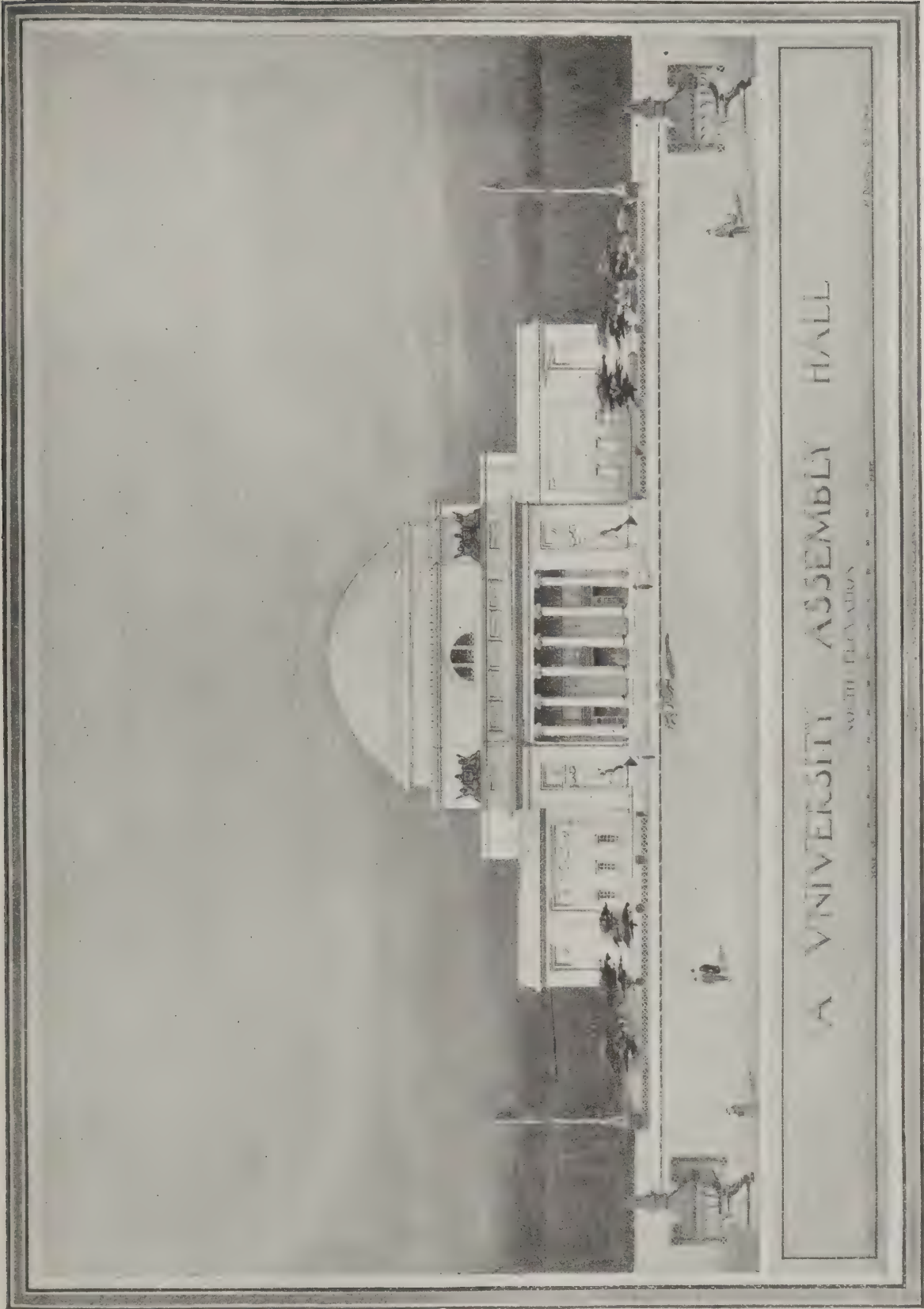
GROUND FLOOR PLAN



FIRST FLOOR PLAN



BARRY GARDEN SUBURB, GLAMORGAN, SOUTH WALES: PAIR OF TYPICAL COTTAGES.
T. ALWYN LLOYD, ARCHITECT. J. A. HALLAM, DEPUTY ARCHITECT.



DESIGN BY W. DOUGILL (LIVERPOOL UNIVERSITY).

a mistake to think that church conditions were initiated since Bach and a whole series of Kapell-masters continued to write Lutheran masses for their choirs in their own churches, and to use in some cases the Gregorian chants. The difference that concerns acoustics is a difference in degree rather than in kind, the degree of reverberation of the auditorium. In other words, what degree of reverberation is permissible for average choral needs, and can the reverberation of a church be reduced to the required number of seconds? The answer is that, whereas it is practically impossible to make St. Paul's or the Abbey suitable for a speaking voice it is not at all impossible to reduce the present reverberation of respectively twelve seconds and eight seconds recognised by organists to three seconds suitable for an average sacred choral work. Sabine's theory—that the time of reverberation in any building varies directly as the air volume, and inversely as the amount of sound absorbing material within it—holds for any auditorium, and has already been applied to churches in America. No one will deny that many choral compositions having sharp tempo effects and staccato passages always need the good concert-room auditorium such as Sabine and McKim's new concert room at Boston, with reverberation not longer than 2.3 seconds. But the objection here is that many works, both popular and undemocratic, could be as well performed in a large church as in the large ugly and ill-designed concert-room, and if measures were employed for reducing the reverberation of a church to a suitable average figure, it would exceed a concert room in efficiency, both for choir and audience.

It is a mistake to think that accurate fugal effects are impossible to achieve in church with a modern choir. Mr. Terry at Westminster Cathedral, with a reverberation of 4.5 seconds to contend with, and rendering the most elaborate polyphony, can sufficiently demonstrate that. In the matter of tonal effects churches are often put to an anomalous use. Churches are used increasingly as auditoria for "lunch-hour organ recitals." These are excellent institutions, but the programme usually consists of one or two fugues only, and the remaining items but transcriptions from modern composers and from modern works of all kinds. The reason of this may possibly be that by the use of certain stops the tonal effects so dear to modern writers can be very pleasantly rendered by an organ in a large church. The effects of a full reverberation to enhance tone is noticeable, but the real music lover would not place such an advantage above accuracy of counterpoint.

A compromise must be arrived at whereby public choirs, rehearsing in the church where they are to perform, can attain to contrapuntal accuracy, and deliver the same accuracy to the audience without destroying the characteristic tone effects of a church. The science of acoustics as applied to auditoria renders an attempt in this direction now possible. The tradition of church singing on the grand scale has been largely lost in Protestant England, but could be recovered by music lovers banded together in public choirs making use of the cathedrals. If the tradition could be recovered our great Elizabethan composers might then be discovered linking the Catholic and Anglican genius in forms of art above controversy, and using architecture as a common home.

The Plates Described

Barry Garden Suburb.

THE building of this suburb for the Welsh Town-planning and Housing Trust, Ltd., was begun during the war, in September, 1915, and completed in September, 1917. The site is a very fine one, joining the town and docks at Barry on high ground between two public parks and running down to the cliffs above the Pebble Beach on the Bristol Channel. The layout plan shows the fifty-two houses already built, and the after-war extension. This is only a portion of a estate of 170 acres. The houses built comprise eleven types, the smallest having living-room, parlour, scullery, downstairs bathroom and three bedrooms; the next size, living-room, parlour, scullery, the bedrooms and bath and w.c. upstairs; and two sizes of the largest type have four bedrooms. The materials used were 11 in. cavity walls (covered with two coats of cement rendering), sash windows, and Welsh slate roofs. The cement face was finished in several varieties of scoring, and colour-washed cream and buff. The roads have 18 ft. carriageways, two 5 ft. paths, and grass margins. The building cost of the houses ranged from £240 to £350 per house. The tenants are principally railwaymen and coal-trimmers.

The Zeebrugge Memorial Designs.

An exhibition of the designs for a memorial to commemorate the storming of Zeebrugge was opened in the galleries of the R.I.B.A. last week. In this issue we illustrate the models which have been awarded first and second prizes. The competition was promoted by the Anglo-Belgian Union, whose desire was to erect a memorial commemorating the glory of the action rather than a monument of mourning for the men who gave their lives in carrying it out. The obelisk form is adopted in both the designs shown—probably with more vigour in that of Messrs. Tait and Dick. In the winning design this feature is somewhat attenuated, and the sculpture groups are a little too realistically agitated. The obelisk, to be constructed in bronze, will be crowned

by a figure of St. George. The basin is limited on three sides by steps, and provision is made on the rear wall for tablets, on which the names of the battleships which took part in the action will be written. The exhibition will be open to the public free of charge until Wednesday, December 24. Subscriptions are invited to defray the cost of erecting the memorial.

Design for a University Assembly Hall.

This design is a typical example of the scholarly work that is being turned out by students of Liverpool School of Architecture under the able direction of Professor C. H. Reilly.

Buildings for Small Holdings.

A very valuable manual on the design, construction, and equipment of small holdings has been lately issued by the Board of Agriculture and Fisheries, a summary of its contents being given in a later part of this issue. It is full of practical information and useful plans, the illustrations which we reproduce of a cow-house and small fruit store being characteristic examples. In view of the great development of the small holdings movement throughout the country, this manual should prove invaluable as a guide to architects, who no doubt will become more and more concerned with this class of work.

Business Premises, Gosport.

This building has been erected for the Gosport Gas and Coke Company from the designs of Mr. H. Austen Hall, F.R.I.B.A. The elevation is a fine piece of composition in an essentially modern manner, strong piers and wide arches at the lower level contrasting effectively with the closer-knit upper storey. On either side a feature is made of a small arched opening with a rusticated treatment, having a balcony above with French casement doors, which are emphasised by a well-moulded surround and a small pediment supported on graceful consoles at the cornice level. A deep parapet adds a good finish to the stonework, which shows well against a hipped roof of tiles.

Correspondence

Concise Costing for Housing. To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of December 3 your correspondents raise several interesting points on the above subject upon which I should like to comment.

"A.R.I.B.A." focusses attention on the fact that numerous and elaborate calculations have to be made by the builder after the quantities are prepared. This is not so generally understood as might be supposed, and, as far as I am aware, there is no book which gives the data in a practical form. This is remarkable in view of the importance of the subject. Before embarking on my system I carried out investigations and made and compiled hundreds of these necessary calculations, which in all cases I have reduced to decimals to facilitate working, and to avoid any onerous calculations after the following manner:

Common Brickwork.—Laid 11 courses to 3 ft. 0 in. = $11 \times 4 \times 2 = 88$ bricks, and adding 2 bricks for waste = 90 bricks per sup. yd., 1 brick length in thickness = $90 \div 1000 = .09$ of a thousand. Therefore,

(...No.)	yds. sup.	$\frac{1}{2}$ brick thick	\times	.045 = thous
"	"	1	"	.09 = "
"	"	$1\frac{1}{2}$	"	.135 = "
"	"	2	"	.18 = "
"	ft.	$\frac{1}{2}$	"	.005 = "
"	"	1	"	.01 = "
"	"	$1\frac{1}{2}$	"	.015 = "
"	"	2	"	.02 = "
"	Rods	"	\times	4.084 = "

In raising the question as to how I deal with day-work items "County Architect" will no doubt have noticed the resemblance of my system to that of the method by which builders make out their day-work accounts: they charge for materials on the basis on which they are purchased, and labour is charged at the rate per hour. The system which I have propounded obviates by its very method day-work items, but in exceptional cases an analogous price which would apply would very likely to be found in the schedule of prizes. Those who have had experience in the adjustment of day-work items under ordinary conditions have probably encountered many difficulties, owing to the fact that day-work items are calculated in a different way and upon a different basis to those given in the bills of quantities (schedule of prices). Again, these are charged at the rates given in the Federated Builders' price-list for day work, and may or may not be analogous with the schedule of prices. With reference to his query re "profit," this may either be competed for in the manner at present in vogue or a fixed profit may be agreed upon. This is dealt with more fully in my book, and I also refer him to my comments on "B. W. F.'s" letter.

I presume the query of Mr. Milnes Foden, "If the system would be applicable universally?" to mean whether it be adopted as a standard system for housing throughout the British Isles, and whether it could be applied to every class of building? The answer to both questions is Yes. Whatever slight differences there may be between one locality and another, or in the same locality, may be regarded as negligible, and it is reasonable to hope they will adjust themselves. For example, in London sand may be purchased by the cubic yard or per ton; carting is either charged by the load = $1\frac{1}{4}$ cubic yards, or per ton.

"B. W. F.'s" point—basis of profit—is

a far-reaching one, which I think we shall hear much more of in the future in regard to housing. On what basis should builder's profit be calculated? If on prime cost, then what does prime cost constitute? In engineering and similar works prime cost is reckoned upon the net cost of materials and labour. This is a simple and sound method, as any fluctuation in the price of materials and the cost of labour can be suitably adjusted. The other costs, including profit, are added to the prime cost, which together make up the total cost. All costs other than materials and labour in actual production are working costs, and should be added to the prime cost as a percentage, based on an average over a given period. These will vary in accordance with the business ability and intelligence of the builder. It naturally follows that the builder who has the most up-to-date works, laid out on the best and most economical lines, and who has efficient organisation and sound business methods will be able to keep these costs down to the lowest point, thus realising more profit, or affording him a margin upon which to compete with his co-builders. There is a general impression abroad that there is as much difference as 10 per cent. between builders in the cost of carrying out work. Now, as materials and labour cost the same to each, the difference must be due to the lack of method. The fact that the twenty builders of St. Helens are able to carry out work for $12\frac{1}{2}$ per cent. on prime costs contrasts very favourably with the charges of the Manchester, Salford, and District Building Trades' Employers' Association, stated in their circular letter, dated November 20, 1919, "that all contracts entered into prior to the dates of advance in wages to workmen shall be increased by the actual amount of the advance, plus $12\frac{1}{2}$ per cent. thereon to cover cost of insurances, etc." The only ambiguity of this lies in the "etc.," and it would be interesting to know what "etc." means. However, for the extra cost of insurance and trouble of paying out the increase in wages to workmen the Association charge $12\frac{1}{2}$ per cent., whilst twenty St. Helens builders will pay the whole of the wages, including, of course, increases in wages, with consequent increase in insurances, purchase the whole of the materials, provide supervision and plant, and pay all establishment costs for $12\frac{1}{2}$ on the cost of the work. Surely there is a mistake somewhere; but, if correct, it only shows the wide divergency between builders on these matters.

"P. A. S. I.'s" letter on the question of guaranteeing the accuracy of bills of quantities deserves serious consideration. Since the Armistice one of the committees of the Manchester Corporation sought tenders on their own bills of quantities, but owing to the trouble and expense incurred by builders on the Committee's work in the past not a single builder would tender, and the contract had to be given out at day-work rates. The Manchester Corporation have prepared their own quantities for some of their housing schemes, and intend, I believe, to prepare the quantities for the schemes in which Manchester architects are engaged upon plans. The Manchester Housing Committee complained that the tenders were high. It matters not whether the quanti-

ties are accurate or otherwise. The work has been done by officials, and it is so much to expect them to act impartially, hence, builders must in their own interest protect themselves, and allow sufficient in their estimate to cover this risk.

T. SUMNER SMITH

R.I.B.A.—Suspension of By-Laws. To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—My usual delight in the flavour of the Journal was disturbed by some comments in your issue of December 17 on the Institute's recent action to suspend the by-laws relating to balloting. I was not present at the meeting at which a discussion took place, but I have read with some interest the proceedings since published in the Institute Journal.

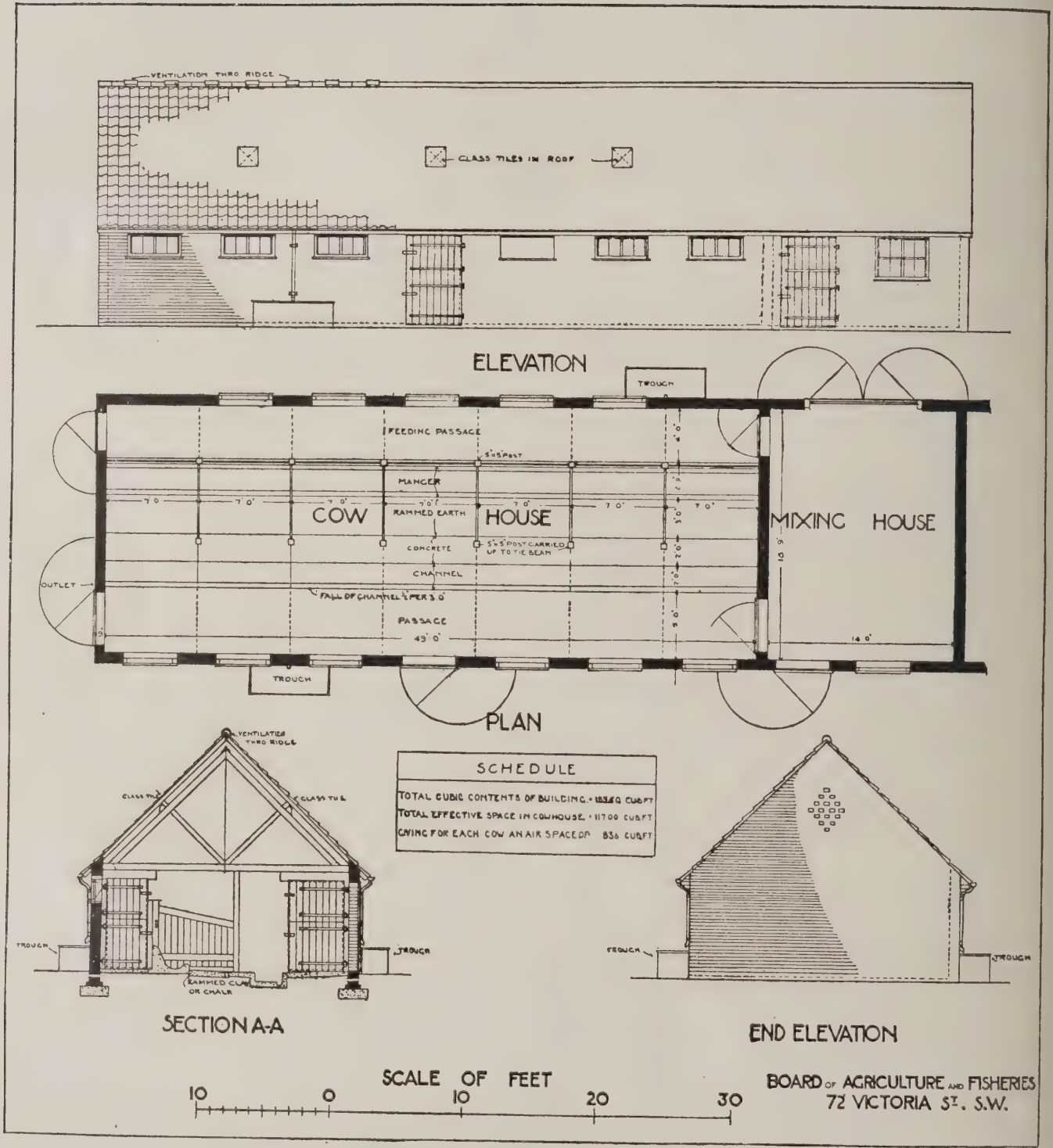
As far as I understand the objection of the protestants against the Council's proposal was that (as one speaker clearly put it) the benefit of exemption from examination normally required to qualify for associateship was not confined to those who could prove beyond question that their special studies for the examination were well advanced at the time the war occurred, and had been definitely interrupted by their military service. That surely represents quite clearly the principle on which the concession was agreed to. It is difficult, therefore, to see the impropriety of drawing the attention of the Council to the very proper understanding originally arrived at. Moreover, have not the Associates, who qualified in the regular way, made every sacrifice that the war involved, entitling them to at least equal consideration with those who had—it can reasonably be presumed—definitely abandoned the qualifying examination long before the shadow of a great war appeared?

I am somewhat indifferent, personally, to the status of Institute membership, but it is quite clear that the bulk of the members very properly attach great importance to it. This makes it surprising that a fact is so inadequately recognised as to cause the reasonable proposal, to fix a year 1910 as the earliest date to which the concession should apply (in all cases), to be resisted at the last meeting, and to even a sinister construction to be put upon the motives and outlook of objectors to the Council's proposals. If there is any merit in an examination system it would seem to involve the examination requirement being not too lightly set aside. One gets almost tired of seeing perfectly sensible views, which may happen to be in opposition to the official ones, designated as lacking in breadth and statesmanlike qualities (and so on)—in fact to be characteristic of the unreasoning inexperience only to be expected from the class of members whose capacity to vote on by-laws is inadmissible.

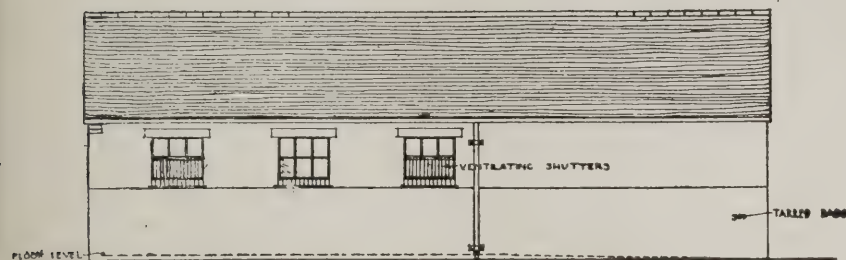
In conclusion, may I say—speaking as an older Associate who yields to none in real loyalty to the Institute—that, whether it be expedient or not to exclude the class to which I belong from participation in votes on by-laws, it will certainly never be really wise for the senior members to exercise the advantages, which they possess in this respect, to inflict upon the Association decisions that are definitely in conflict with the latter's sense of fair play, and of honourable understanding on which the Associates qualified for membership.

FREDK. R. THORNS

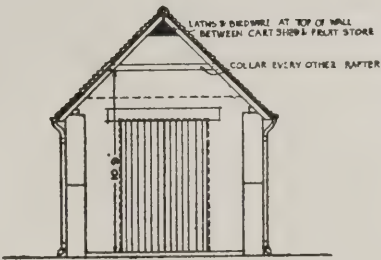
[For editorial comment, see page 760]



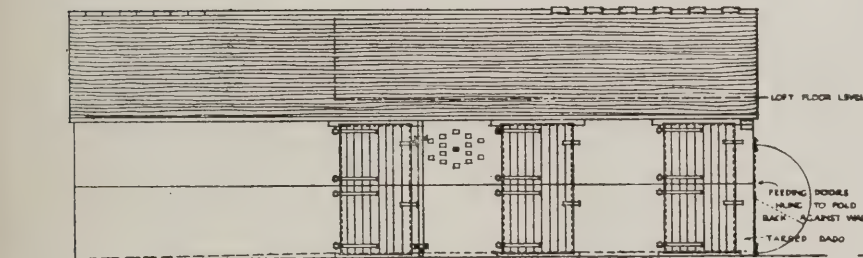
Cow House for Fourteen Cows, with Feeding Passage.



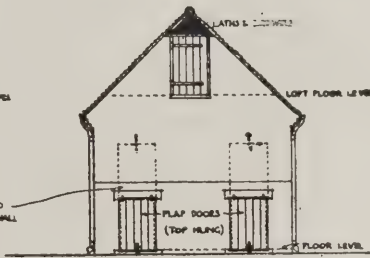
BACK ELEVATION



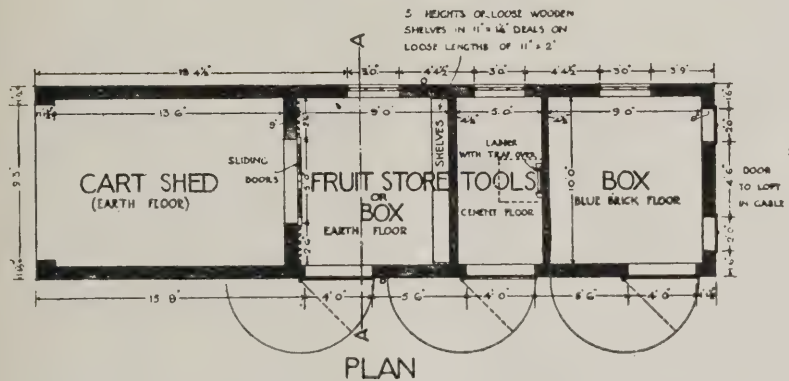
END ELEVATION
(TO CARTSHED)



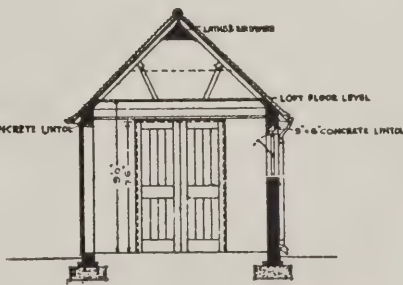
FRONT ELEVATION



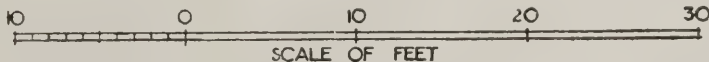
END ELEVATION
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PLAN



SECTION A-A



SCALE OF FEET

BOARD OF AGRICULTURE AND FISHERIES
72, VICTORIA STREET S.W.

Buildings suitable for a Small Fruit Farm.

SMALL HOLDINGS.
(Agriculture and Fisheries.)

Small Holdings: Their Construction and Equipment

ARGE amount of useful and interesting information with regard to the usual requirements of cottages and buildings is given in the second edition of the Manual issued by the Board of Agriculture and Fisheries for the guidance of county councils and their architects in the equipment of small holdings. Suggestions and recommendations are embodied in these requirements may be met by a number of type plans, some of them particularly economical, are included. A résumé of the manual, which is divided into two parts, dealing respectively with the planning and construction of cottages and of farm buildings, is as follows:

Cottages.

Where the building of cottages is proposed, county architects should make a careful study of each locality, and so draft specifications as to avoid unnecessary expense through specifying rigidly in materials or treatments, when satisfactory and less costly alternatives are available. For the same reason the Board is it unwise to impose any standard of contract. County councils may use the form issued by the Ministry of

Health or a form issued by the Board in which the builder tenders a lump sum for his services, supervision, profit, and use of plant, while the ascertained cost of materials and labour (including insurance) are paid separately by the employer.

The plans, illustrated in the Manual, one of which we reproduce, have been prepared to conform with all reasonable requirements. Under Section 24 of the Housing Town Planning, Etc., Act, 1919, building by-laws will not apply to the plans and specification of small holdings approved by the Board. Questions of general policy as regards site and disposition must be carefully considered, and the rival merits of various dispositions and groupings nicely weighed. Small holdings should, as far as possible, be grouped together in neighbourly fashion, and not dotted about as isolated unsociable units.

Where the new settlement is some distance from existing villages a site should be reserved for a small general utility hall to serve as church, school, cinema, club and institute, etc., all in one. In the selection of sites sound foundations, good water supply, and convenient drainage should be kept in mind, and shelter should

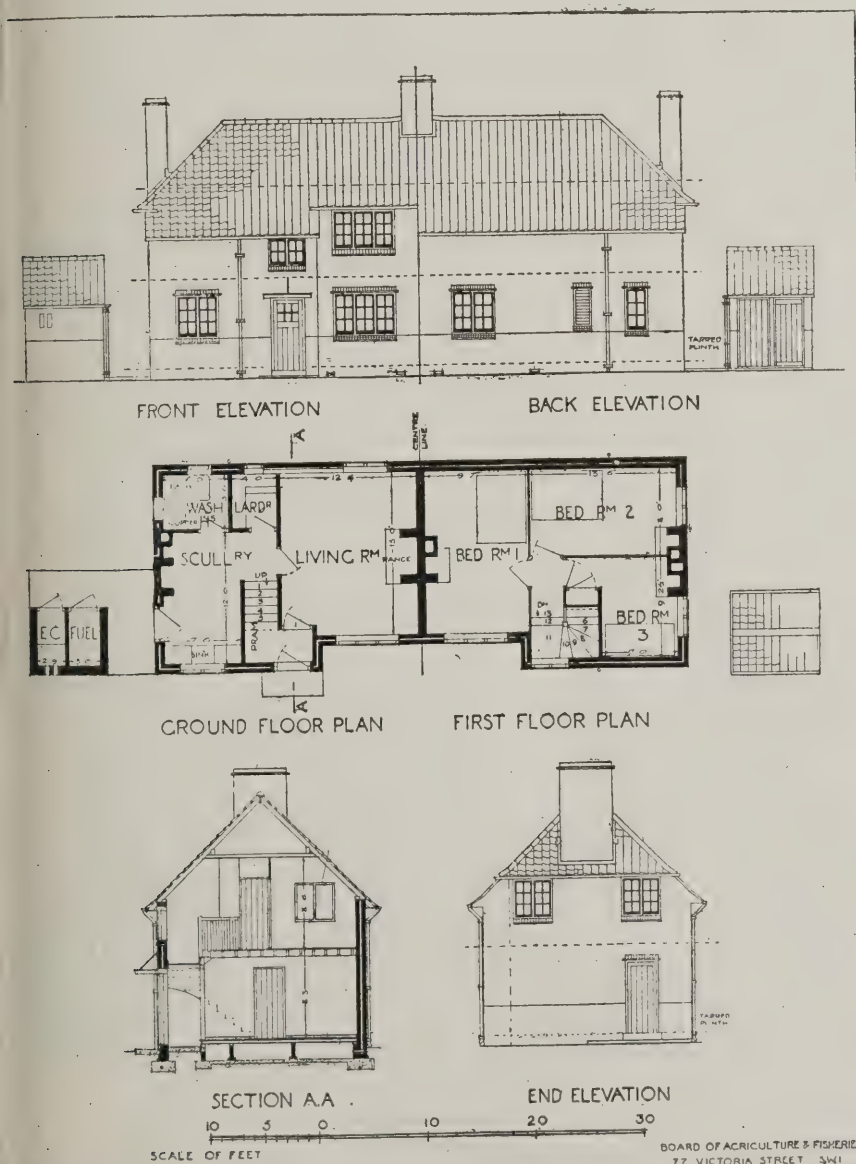
be sought by the use of natural cover, or by the careful grouping of the buildings and the judicious planting of trees and hedges. Successful and wisely balanced compromise is the test of good planning, and there is scope for unlimited ingenuity in the search for ideal solutions to the ever-varying problems presented by cottage design. Among the new materials and methods of construction which the Board consider worthy of careful consideration for both houses and farm-buildings, are chalk, cob, and pisé-de-terre. Where brick is the material used there will seldom be good reason for departure from 11 in. cavity walls, even when external cement rendering is to be applied. The fullest possible use and exploitation of all local materials is as desirable aesthetically as it is economically. Failing a common sewage disposal system direct surface irrigation at a reasonable distance from the house is usually the most satisfactory as well as the most economical method of disposal.

As regards roof coverings, the Board favours either slates, tiles, or good reed thatch protected by galvanised chicken wire. One of the chief advantages of a roof of pan, corrugated or interlocking tiles, is that, compared with one of plain tiles, it is light, both for transport and use. Full advantage should be taken of this lightness in the design of the roof carpentry, which can be proportionately reduced in strength. Where corrugated or interlocking tiles are used, rough boarding laid vertically from ridge to eaves, across which the tile battens are nailed, may sometimes be substituted for common rafters. The Mansard roof is sometimes an economical expedient in contriving the upper storey, and sometimes a roof composed entirely of common rafter couples was cheap and rigid.

Plain, well-proportioned elevations, a simple roof and straightforward planning are more suitable for a small-holder's house than any attempts at the picturesque by means of calculated irregularities. Three bedrooms must be regarded as a minimum, and a fourth may be necessary in holdings over a certain acreage, particularly on a dairy holding. On a dairy holding, the dairy may be planned in the house, but should be entered from outside.

Farm Buildings.

Generalisations on the planning of farm buildings are rendered peculiarly difficult by the widely varying conditions under which farming is carried on in different localities. With farm buildings, the conditions are never identical, and the nature and extent of the buildings appropriate to any given holding are governed by many different and often conflicting factors. Consciously or unconsciously the plan of the steading will be modified by the geological, meteorological, and geographical peculiarities of the district (soil, rainfall, vegetation, transportation facilities, markets), by economic and social considerations (Government agricultural policy, wages, housing, etc.), by the individual preferences of the cultivator, by the extent of the holding, and especially by the number and kinds of the live-stock kept. As it is impossible to lay down precise and universally applicable rules for the lay-out and construction of farm buildings, the manual deals only with general principles, and the illustrations, two of which are reproduced in our double-page plate, only with details of



AN ECONOMICAL COTTAGE FOR SMALL HOLDINGS.

(From the Manual of the Board of Agriculture and Fisheries).

arrangement. The planning of the complete holding must be left to the architect on the spot.

There is no standard that can be moulded to a type. Local prejudices have become stereotyped in particular areas, and from mere use certain arrangements are looked upon as essential, while elsewhere an entirely opposite view of their usefulness is held. It is neither possible nor good policy to run counter altogether to local custom, and it is only by the gradual introduction of obvious improvements that local habits and predilections can be changed. The method on which the architect should proceed is to get fully acquainted with local practice in farming, to compare buildings already put up, and to evolve a convenient plan embodying the points that have proved to be acceptable and best adapted to the customs of the locality. Obvious improvements must, however, be introduced, especially as regards cleanliness, light and air, and those items which are out of date should be replaced by others of proved superiority.

Cow houses should be conveniently placed for the supply of fodder and roots. The access should be easy and as direct as possible from the pasture. To ensure ample sunlight, a south-east or south-west aspect is desirable. The cow-shed must comply, as to cubic space, with the requirements laid down by any regulations adopted by the local authority under the Dairies, Cowsheds, and Milk Shops Order. The usual minimum space prescribed is 800 cubic ft. per cow where the cows are habitually kept and fed in a building, and 600 cubic ft. where they are turned out for part of each day. The lower figure seems to be as much as should be required on any small holding. The cubic space above 12 ft. from the floor is sometimes disallowed. Where the cow-house is covered with a roof of modern type, in which ventilation is arranged in the apex of the gable and the whole of the air inside the cowshed is in circulation, this seems an unnecessary regulation. Nothing, however, in the way of cubic space will take the place of efficient ventilation, and a cowbarn, however large, will become fetid unless the air is constantly changing. A cowshed should always have cross ventilation, and for this reason lean-to pigsties or other low buildings should not be allowed against the side-walls. Next to ventilation and only secondary to it is the provision of ample light.

In the case of a market-garden or fruit-holding the equipment required is of the simplest description. In many instances a shed in which to pack vegetables and fruit is all that is necessary. In others a proper store-room suitable for storing fruit, onions, etc., will be needed. The store should be thoroughly well ventilated with cross ventilation, and additional ventilation at the eaves or at the ridge of the roof is advisable. Provision should be made to prevent the entry of flies, etc., by covering the openings with fly wire. Shelves will seldom be necessary, as it is usual to store the fruit, etc., in boxes, which are unloaded direct from the cart into the store and piled one on another. If the occupier is likely to keep a horse or pony, a stable and small cart shed will also be required. It is perhaps economical to give a box in preference to a stall, which can be used alternatively for a pig. A loft can very probably be arranged over part of the structure, which will increase the storage space without additional size. It should be borne in mind that a fruit farm takes some years to develop, and buildings beyond the smallest first equipment can develop with the holding.

THE NEED FOR MORE CARE IN WAREHOUSE DESIGN.

Professor Henry Adams, M.Inst.C.E., M.I.Mech.E., F.S.I., F.R.San.I., in reading a paper on the above subject before the Society of Architects, stated that the section handbooks issued by steel manufacturers were apt to give architects a false idea of security in using tables of safe loads. There was the difficulty of determining the loads that would come upon the girders, and then, where the distribution was irregular, determining the maximum bending moments and converting those into equivalent safe loads. Many architects failed to realise the existence of negative bending moments over the intermediate supports, which often exceeded the positive bending moments when the girders were continuous, and must be fully provided for. A fruitful but often unsuspected source of overloading was the concentration of weight over a limited area of floor space, although the total load on the floor at the time might be trifling compared with what it would carry uniformly distributed. When he was assisting the L.C.C. in drafting the "Steel Frame Act," he urged that the notice which reads: "In every building of the warehouse class, a notice shall be exhibited in a conspicuous place on each storey of such building stating the maximum superimposed load per square foot which may be carried on the floor of such storey" was not sufficiently explicit, and he desired to insert "on any portion of" before "the floor of such storey," but was overruled. Professor Adams had found printing offices where parts of the floor have been loaded with more than double the authorised allowance, and in some cases the rolled joists had been showing serious deflection, which might lead to failure at any time, involving the surrounding structure as well as the overloaded portion.

Rolled Joists as Stanchions.

In the case of rolled joists as stanchions, those sections should be selected that had the least difference in the inertia moments, or the section modulus, in the two directions, and for that reason broad-flange beams made good stanchions. Then it should be remembered also that a load coming on one side of a stanchion, even though it was bracketted on to the web, introduced a bending moment which put a far more serious stress upon it than was given by a central or axial load. Generally speaking, a load from a girder on one side of a stanchion would be equal to two and a half times the same load carried centrally. If the girder was continued over the top of the stanchion, but loaded on one side only, the effect would not be quite so great, but even then would often have the same result upon the stanchion as if it were fully loaded on both sides. Piers projecting from walls should be well bonded to the wall, and the foundations carried round them to support the additional load. Buttresses, 18 in. by 4½ in., 12 ft. centre to centre, added to a 9-in. wall 6 ft. high, instead of reducing the stresses in the brickwork due to wind pressure, increase the compressive stress by 30 per cent. owing to the larger mass being collected nearer the neutral axis.

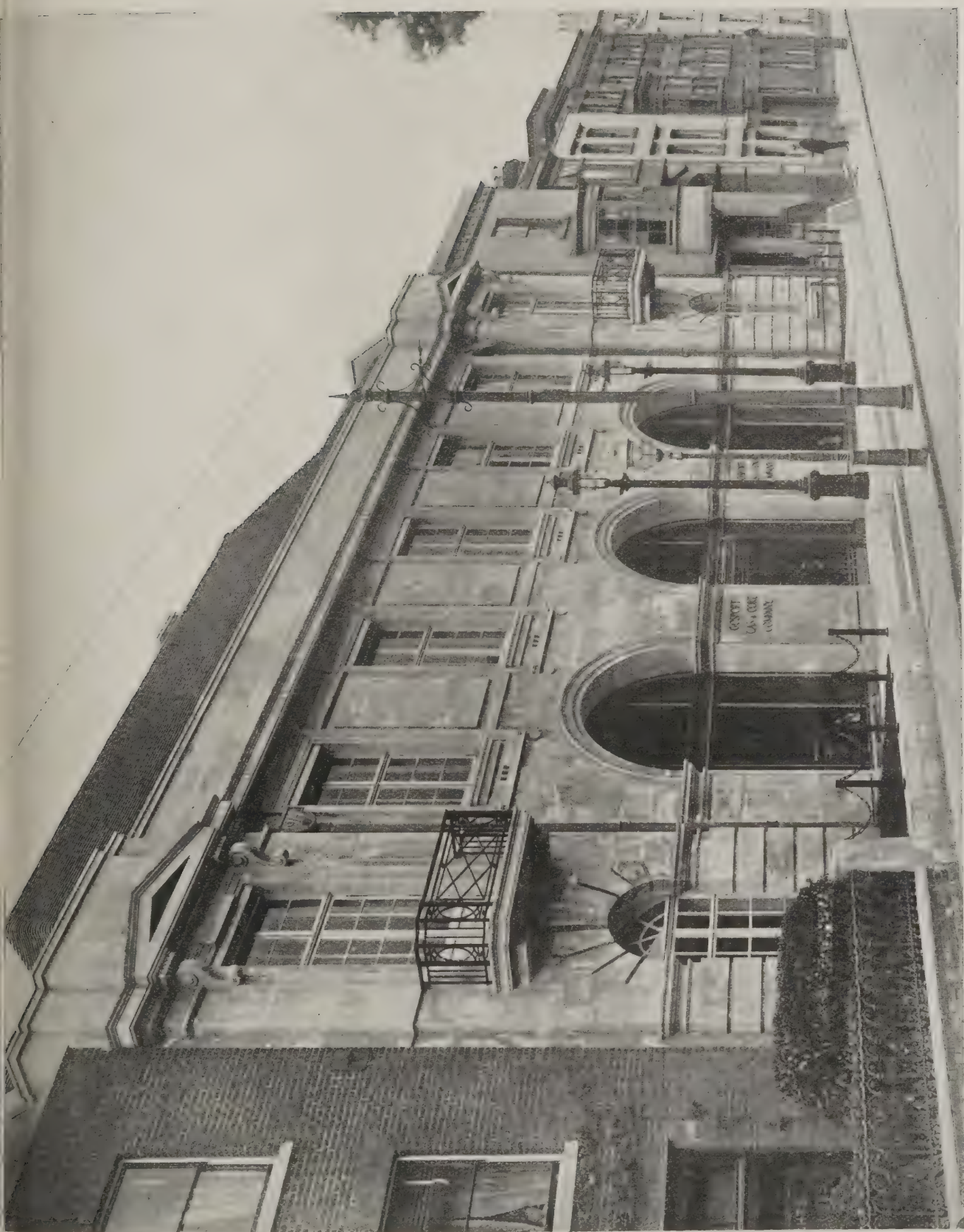
The foundations for the stanchions of a warehouse required thoughtful care. Most books on construction gave tables of the safe load upon different soils, but the soils themselves were not found to be labelled

when the excavations were made, so the architect had to judge for himself if they were capable of carrying. The architect limited the load to one and a half tons per square foot on gravel and 1 ton per square foot on clay he would usually be safe. There were many places where it might be quite suitable to put three times this load upon the soil, but then must be quite sure of all the circumstances affecting the case. On gravel the depth of the foundations might be as little as 2 ft. 6 in. from the surface, but on clay they were less than 5 ft., considerable would be run from expansion and contraction due to alternations of moisture and drought. Some of the greatest difficulties occurred in connection with foundations particularly for riverside warehouses. The soil generally varied from a light sandy ballast to a semi-compact mud, liable to become fluid when penetrated by moisture. These were usually followed at a depth of 12 ft. to 18 ft. by a good layer of gravel with London clay below. The gravel would carry possibly five or six tons to the square foot with safety, but he would not put more than three tons to the square foot on it as a general rule. In many cases the foundations had to be supported by the light soil above, as without bases or rooms it would not pay to go down to firm gravel, and then a reinforced concrete raft was the only feasible plan.

The Reinforced Concrete Regulations of the L.C.C. laid down the rules of design with sufficient clearness and fulness to enable a conscientious man to prepare a design, but that was not sufficient unless the greatest care could be taken to supervise the execution of the work. Some authorities insisted that the calculations should accompany the designs before they could give their sanction to the erection. The only advantage in this was that some calculations would be imperative, it would in any way ensure that the building was properly or safely designed. If the local surveyor to check the design, he could only say that the calculations would be of no use to an incompetent critic, and a competent one would rather be without tables and make his own calculations.

Method of Construction.

As a fire-resisting material, reinforced concrete was only approached by brickwork, but it had the advantage of the latter in being capable of being used alone for floors, staircases, etc. Reinforced concrete was particularly well adapted for warehouse construction, providing it was used intelligently. The usual construction inside consisted of pillars 15 ft. to 20 ft. centre to centre, with 4 or 5 beams across them in one direction, and cross beams 5 ft. to 6 ft. centres in the other direction, and a continuous floor 4½ to 6 in. thick, with angle brackets for the pillars, and fillets at all the junctions of beams and slabs. The concrete was usually a mixture of 1 cement, 2 sand, and 4 larger aggregate, and was allowed to be stressed to 600 lb. per square inch of pressure under working conditions, steel at the same time being allowed 16,000 lb. per square inch tension. A larger aggregate might be of practical any size for mass concrete, but for reinforced concrete it should vary in size from ¼ in. to a maximum of ¾ in., the sand may vary between 1.50 in. and ¾ in. The cement should be slow setting and always comply with the British



NEW PREMISES FOR THE GOSPORT GAS AND COKE COMPANY, GOSPORT, H. AUSTEN HALL, F.R.I.B.A., ARCHITECT.

rd specification. Hard broken brick itable for use, except Fletton bricks contained sulphur and might cause sion and disruption.

essor Adams gave some approximate of his own. The maximum of ny was obtained when the materials stressed up to their working limit full load, the reinforcement then 0.675 per cent. It would be near h if the area of steel in section was as 1 per cent. of the area of concrete the centre line of the steel, or what alled the "effective depth." Then $0.6 \bar{b} \bar{d}^2$

W being safe load in L

distributed along the beam or strip of slab, \bar{b} breadth in inches, \bar{d} effective in inches, L clear span in feet. To be external load that could be put it, or the superimposed load, the of beam or slab should be deducted. ximately, the effective depth in s of a slab or beam with 1 per cent.

orcement $= \sqrt{\frac{B}{1295}}$ where B =

ng moment in lb.-ins. Per foot width b or beam.

hen the floor slab was continuous several spans, the outer bay should out three-fourths the width of the s for equal thickness, and if proper sion is made for the reversal of stress the supports the safe load per foot might be taken as $1\frac{1}{2}$ times what it d be on a portion of floor taken as a e beam supported at the ends.

ARCHITECTS' AND SURVEYORS' ASSISTANTS' PROFESSIONAL UNION.

general business meeting of the n has been held at Caxton Hall, West- ter, S.W., under the chairmanship of R. G. Llewellyn Evans, M.S.A. rman of the Executive Committee).

Chairman briefly stated that the ct of the meeting was to adopt rules the government of the Union.

Secretary read a letter of sympathy support from the President of the B.A., Mr. John W. Simpson, and from Secretary of the R.I.B.A. stating that Council had agreed to recognise the nees of the Union as delegates repring assistants on the Architects' Assis- Welfare Committee. The Society of itects were granting similar recogni- He also read telegrams and letters mpathy from branch secretaries and l corresponding members, from gow, Liverpool, Ayr, Norwich, Bir- gham, Brighton, Newport, Stroud, is, and Cardiff.

question was asked by a member as to her the Committee of the Union had oached the Surveyors' Institution. Secretary explained that the architect- institutions were the founders of the fare Committee and had been ap- ched in the first place. The Com- ee had asked these bodies to invite the eyors' Institution and the Quantity eyors' Association to co-operate with , and he hoped these latter institutions d be approached in due course.

resolution adopting the rules as ted was proposed by Mr. Ashcroft and nded by Mr. Shingleton.

r. P. W. Farmer, vice-chairman of the cutive Committee, in explaining the s, paid compliment to Mr. Chas.

Green, A.R.I.B.A., whose services, he said, had been invaluable. The rules were experimental, and more or less elastic to meet the needs of a growing Union, and would be subject to modifications as time went on.

Mr. F. R. Jelley, A.R.I.B.A., moved an amendment urging the professional institutions to adopt a minimum salary for assistants according to their qualifications. He thought the Union must aim at a minimum salary, and that they should approach these bodies to consider the needs of their assistant members. Mr. John Mackie seconded the amendment.

The Assistant Secretary said that his Executive could not support the amendment. The aim, as expressed in the rules, "to abolish unpaid and underpaid assistants" was wide and at the same time definite. The amendment was a matter of detail, and if adopted would tend to narrow the scope of the original clause.

Mr. Mauger suggested that the meeting seemed to support the Committee, and that Messrs. Jelley and Mackie should withdraw their amendment. Mr. Jelley agreed to do this, though he would have preferred to see the amendment adopted. Mr. Mackie concurred.

A further amendment by Messrs. Jelley and Mackie appealed for the co-operation of the professional Press in discontinuing the insertion of the advertisements for vacancies where the salaries offered were either not mentioned or were less than the agreed minimum. Mr. Duncan, on behalf of the Executive, asked the meeting to reject this amendment. The Press had been very good to them, and the adoption of this amendment would be dictatorial. The proposers withdrew their amendment.

An amendment by Messrs. Don. Cameron and A. T. Wright, of the Norwich Branch, proposed that the share of the branch gross income payable to headquarters should be one-half instead of three-quarters. The Secretary read a statement by these gentlemen in support of their amendment.

Mr. Duncan seconded, but Mr. J. B. Hector put forward an alternative amendment by the Committee, "But if, in the opinion of the Central Executive Committee, a particular branch is in need of special financial assistance, such remittance or part thereof may be refunded."

Mr. Clarke, in supporting the amendment, felt that branches should be encouraged in every way possible to undertake local propaganda work, and should not be hampered by want of funds.

The Secretary explained that the alternative amendment by the Committee allowed more generous treatment to a branch than the original amendment. The Committee was entirely sympathetic to the branches. They had recently voted £5 towards the formation of a branch in Liverpool. They were inserting week by week an advertisement in some provincial paper where branches had not yet been formed. The Committee felt that, where possible, all branches should pay their fair share of this expenditure, and above that headquarters must be maintained. The subscription was very small, and allowed very small margin for ordinary staff maintenance. Mr. Clarke accepted the Secretary's explanation.

The amendment was put to the meeting and lost, two members voting for it and forty-four against. The Committee's alternative amendment was then put and adopted by fifty-five votes to one. The

Chairman then put the original resolution adopting the rules with such amendment as had been passed by the meeting, and it was carried unanimously.

A resolution empowering the Executive Committee to enter into provisional agreements of affiliation with existing local bodies of assistants, such affiliation to be ratified later, was proposed by Mr. Clarke, seconded by Mr. Alton.

The Secretary explained that this resolution was to keep an open door for certain bodies who had approached them, but he hoped that they would see their way to join the Union as branches. The Committee did not wish to encourage the idea of affiliation by bodies which should share the full responsibilities and privileges of membership.

Messrs. T. Braddock, R. Jones, G. S. Stone, G. N. Hannam, and C. H. Rodwell, all surveyors, were elected to fill the five vacancies on the committee caused by the adoption of the London Interim Rules. Messrs. J. Harrison, J. A. Macdonald, and C. H. Rattenbury were elected as auditors, and Messrs. Strudwick and Ashcroft as scrutineers.

Mr. R. G. Strachan, P.A.S.I., of the Executive, made an appeal to surveyors to come forward in larger numbers than they had hitherto done. The Union was intended for them as well as for their architectural brethren, but they had not shown hitherto the same interest. It might be that they were perhaps better paid, but this Union had many other aims than mere remuneration of services which likewise deserved their interest. Since this meeting information is to hand that the Council of the Architectural Association are also prepared to recognise the Union as the organisation of assistants for purposes of the Assistants' Welfare Committee.

Liverpool Branch.

At a well-attended meeting at Liverpool it was decided to form a Liverpool and District branch of the Architects' and Surveyors' Assistants' Professional Union. The chair was occupied by Mr. T. M. Alexander.

Mr. J. Grieve (provisional branch secretary) outlined the history and objects of the Union. Dealing with remuneration, he cited cases of assistants being paid less than street sweepers. He suggested that if architectural work were of no more value than street sweeping it would be better to abolish schools of architecture. Professors were not required to teach street sweeping. Remuneration and training, he said, were very closely bound up together. Architects sometimes said a man was not worth more than a small salary. There were undoubtedly many half-trained and untrained men, the chief reason being that there was no one recognised way of obtaining a training. Young men sometimes spent a good part of their pupillage in sterilising routine, to be turned off at the end of that time only a burden to themselves and the profession. The Union wished to abolish this, to provide that architects shall receive a proper training and so be worthy of an adequate remuneration. This could only be achieved by assistants taking the matter into their own hands.

Mr. F. H. Auger, president of the Merseyside branch of the Engineering and Shipbuilding Draughtsmen's Association, outlined the history of that Association. Messages from the London Committee and the Norwich Branch were read.

WAR PICTURES EXHIBITION.

The larger portion of the valuable collection of war pictures, acquired by the Imperial War Museum for the nation, is now being exhibited to the public at the Royal Academy. Although many important pictures, including a large number by Sir Wm. Orpen, R.A., are still unavailable, almost a thousand pictures are being shown. They include so many fine works that any visitor who has seen other war exhibitions will soon feel convinced that the Mother Country easily holds her own in the art records of the great war.

The modernist schools are extensively represented; but those visitors who prefer to take their art in kaleidoscopic confusions will probably be disappointed. A few pictures verge upon the grotesque—or the sublime—as you will. In the main, however, there are many indications that the extremists have compromised somewhat, at least for this occasion. Some of the young masters, who on other occasions have risen far, very far, beyond the confines of the humdrum recognisable, are now graciously displaying at least a nodding acquaintance with reality. Others, still disdaining an academic style, deign to compromise in feeble copies of the primitive. Even Mr. Wyndham Lewis, past master in portraying men as undulating ether waves, now shows one or two figures which can almost be identified as of the human species.

There are one or two well-known pictures again on show. Mr. Sargent's noble picture, "Gassed," is in the Third Gallery (84), and Mr. Walter Bayes's "The Underworld" (694) is in the Lecture Room. Sir John Lavery's generous gift of nearly fifty of his own pictures has the Tenth Gallery to itself, and includes his "Convoy, North Sea," and two or three portraits.

One of the best pictures is "Interrogation," by Mr. Francis Dodd, who has several other fine exhibits. Mr. C. R. W. Nevinston, also, is responsible for two or three pictures, particularly "Paths of Glory" (87) and "The Harvest of Battle" (228). It is almost unnecessary to mention Mr. Muirhead Bone's work, and that of Mr. Chas. Pears, both of whom have contributed fine pictures. Altogether, the exhibition is exceedingly well worth a visit.

A. E. B.

NEW PAINTINGS BY MR. W. WALCOT.

Mr. W. Walcot is always refreshing, and it is a pleasure to find him exhibiting his work once more at the Fine Art Society. His new pictures are, moreover, essentially new work, and the less we are able to catch "characteristic" aspects of his art, the more may we be sure that he is beset by the artist's refusal to repeat himself in the desire always to take his art a step further. A new appeal, surprise even, is bound to be aroused in this unrelenting spirit of the painter, in which we, if we are to understand him, must acquiesce. Where Mr. Walcot does relent in meeting all the exigencies of his art is in the exquisite little holiday pictures of the bathing beach, irresistibly modelled in oil, and as captivating as the best of Boudin; a name that is suggested, too, by the impression of the London Pool that is an unexpected testimony to the range of Mr. Walcot's art.

The new restoration of the Baths of Constantine now shown is an important addition to this artist's invaluable contributions to the modern movement to regard archaeology as one of the humanities. New

conceptions of the past, with their sense of a direct vision of a thing seen in its maturity, are only disconcerting to an academic materialism that makes no effort to view the antique in the full daylight of antiquity, and is content to pin its whole faith to the certainty of a few details. There is a reasonableness in Mr. Walcot's attitude that makes it unnecessary to decide what has so often to be decided in modern art—whether we are not clever enough to see the artist's meaning, or whether the artist has not been clever enough to convey it. When an artist remains true to his inspiration he is secure in the knowledge that what he creates will be within our understanding, will have immediate universal appeal.

Those who have followed Mr. Walcot's work will be interested in the experiment of "An Assyrian Chariot," in which an etched plate is impressed on body colour, the texture produced having a remarkable decorative value. The process is not to be confused with a coloured etching, essentially different, and it is one more instance of Mr. Walcot's dexterity in conveying the significant qualities of different materials, and in expressing a tangibility that mere colour and shape will not achieve. In his compositions and restorations, no less than in his studies in the great architectural cities, his medium is always perfectly accommodated to a fine appreciation of structure. The result is a transcription, in a musical sense, of the all but perfect fusion of matter and form that great architecture is.

THE 'SURVEYORS' INSTITUTION.

The Housing Committee, which drew up valuable reports on the housing problem in 1916, 1917, and 1918, has again been called together to place before the authorities the views of practical surveyors closely connected with building development of every description, to suggest, if possible, a way out of the present impasse. The Council note that under Clause 23 of the Electricity (Supply) Bill, 1919, authorised undertakers in connection with an electricity supply scheme would be empowered to serve notice upon an owner or occupier of land of their intention to place an electric line below or across land belonging to or occupied by him, no specific provision being made for compensation, and the only appeal being to the Board of Trade which, in some cases, might have been the body responsible for sanctioning the scheme. The Council have suggested that the precedent of the Telegraph Acts should be followed, an appeal being allowed to the impartial tribunal therein set up, and the owner or occupier of the land being empowered to require the removal of the cable where the land was required for development purposes.

The examinations for the Institution Scholarships will be held at different centres in Great Britain on January 27 and 28. The Council have had under consideration the conditions upon which the scholarships are held, and hope shortly to announce certain amendments which should prove to the advantage of the holders.

In view of the great increase in office expenses of every description, the Surveyors' Institution and the Auctioneers' and Estate Agents' Institute have together been considering the necessity of making some corresponding increase in the scale of charges recognised by these bodies. They

have now decided that a higher level of fees is justified in connection with certain classes of work, and particulars of the amendments to be made to the existing scale will be issued as soon as possible.

HOUSING IN GERMANY.

The shortage of houses in Germany seems to be more severe than in this country, while her resources are less, and many of the existing tenements provide accommodation which reformers would like wholly to condemn if means permitted. Some there are who have in the past been deluded by the imposing appearance of huge tenements without realising that within this deluding shell a great problem was developing. In an official report issued by the Ministry of Health, it is stated that "the housing difficulties of Germany are a more striking because more of her great towns are of quite recent growth. In 1871 the population of Germany living in towns of 20,000 or more inhabitants was 6,154,000, which was one-seventh of the total population; in 1910 the figure was 22,501,000, over one-third of the total population; the United States is the only Western country which shows a similar growth."

"The war, as here, has gravely accentuated the housing problem. House building was practically stopped. The shortage of accommodation became acute, and all manner of devices were adopted in order to make it good; prohibitions (not by any means always observed) against the use of cellars and attics were withdrawn and shops which were empty and even schools were compulsorily converted into dwelling places, all of which, however, no more than slightly relieve the pressure."

"The estimates of the number of new dwellings required differ very much. One writer estimated that in Greater Berlin alone 40,000 to 60,000 new dwellings would be required at the end of the war. The estimates given for the need of new dwellings for the whole Empire varied between 250,000 and 800,000. In Bavaria, if building had continued on normal lines during the four years of war, about 50,000 new dwellings would have been erected, whereas the actual number was about 8,000."

"As already mentioned, the problem was recognised to be so grave that, before the revolution, for the first time it had been decided that the Empire and the States should assist liberally in meeting it, municipal sources alone being wholly inadequate."

"Less is heard of rural than of urban housing defects, but this is only because the urban problem is the more pressing and the more manifest one. The rural accommodation is extremely bad in some parts of the Empire. It is not a little significant that in Prussia infantile mortality is actually higher in the rural than in the urban areas of the State. Much has been written and a little, but only a little, done, as to providing agricultural settlements for soldiers, particularly for disabled men. The slow progress does not arise wholly from want of effort; disinclination on the part of the men and the want of training are serious hindrances."

Two of the most instructive measures in connection with housing in recent years have been the provision of capital through thrift institutions and the use made of public utility societies. Capital for housing has also been provided through the municipal savings banks.

GOVERNMENT APPEAL TO THE BUILDING TRADES.

Appeal on behalf of the Government was made by Mr. Lloyd George at a special conference of representatives of the Building Trades at the Council, held in London, under the patronage of Sir Robert Horne, Minister of Labour. Amongst those present were Dr. C. Addison, Minister of Labour, Sir James Carmichael, and Sir J. Walters.

Lloyd George said that the housing needs of the country were a prolific source of social unrest. He doubted if any Act of Parliament had accomplished more in a few months than had this new Housing Act. Local authorities had signed schemes for over 500,000 sites for 300,000 houses had been purchased in England and Wales. Already schemes for local authorities had been approved. When it was considered that the largest number of houses ever built in a single year in England and Wales came to 100,000, one could see the work that had to be done in the way, at any rate, of providing sites for building by local authorities. In addition private building had already throughout the country put out sites for at least scores of thousands of houses. Labour was up at 10 per cent., and materials by 110 per cent. The Government had soon after the war given great orders for bricks, tiles, slates, cement, and the various materials required, and there was a considerable stock of them thus secured, which had been applied by the Government at net cost. The Government proposed that at the earliest possible moment the normal conditions of business should be reverted to, and that materials should be available through the ordinary trade channels. In addition there should be people prepared to take advantage of the increased demand and to make fair profits on the cost of materials. The Government proposed to take full advantage of the Profiteering Act.

Two greatest difficulties were those connected with transport and with labour. Labour was the greatest difficulty of the war, and the determining factor. Before the war there were 900,000 men in the building trade in Great Britain. Now they had grown to something between 650,000 and 700,000. One hundred thousand was the highest number ever employed before the war. Now 500,000 were waiting the builders' hands, and this was the normal yearly increase of the trade, in addition, and it seemed almost an insoluble problem how, with numbers reduced by between 200,000 and 250,000, they would ever be able to solve it. They could not concentrate the whole of the building trade on building houses. There were factories, work-repairs, and the essential demands of the trade to be attended to, and there were middle-class houses. But the first was that mere luxury building must be discouraged until they had overcome existing difficulties. The second was that the building trade must draw new blood. There must be an improvement in methods and organisation of the

The Government were appealing to men to make special exertions, not to ease the profits of the employers, but to ease the difficulties of their own class. They appealed for the encouragement by the efforts of employers and workmen of

improved methods of construction—standardisation and new methods of every kind—and, finally, ensure increased output. There was nothing to prevent the builders starting on January 1 if they wanted to. The real obstacle was that the cost of material was excessively high. They had first of all to give the offer of State assistance to the municipality. Otherwise there would have been a feeling that they were subsidising the private man, and there was a feeling against it. It was only after three months, when they found that they could not get the houses, that the Government were in a position to make an offer to the private builder. The delay was inevitable in order to convince the public that it was necessary to take a step never taken in the whole experience of this country. There was the question of what was known as dilution. The suggestion was that they should train men for the building industry, introduce them to the building industry later in life than under ordinary normal conditions, for the simple reason that young men were not available to make up the deficiency, and they must be got quickly. It was no use complaining 'of four months' delay if they were going to wait five years for apprentices. They must get them quickly, but they could not do that except by two methods—by allowing men to come on later in life for training and making the apprenticeship for a shorter period.

BRITISH ENGINEERING STANDARDS.

The British Engineering Standards Association Committee, appointed as a result of a trade conference in April last, to draw up a standard system of limit gauging applicable to all classes of engineering, is unanimous in feeling that no decision could be made until further light has been thrown on the subject.

The replies received to a questionnaire sent round to a number of firms asking which method of hole tolerance they preferred, viz., that which gave plus and minor tolerances or that which provided for plus tolerances alone, brought in only some 200 replies, these being almost equally divided in favour of the two methods. The problem is rendered still more complex in that, among the advocates of each of the systems, are large firms of importance and influence.

As to whether the matter should be settled from an industrial point of view or purely from a theoretical, is not easy to decide, and the information regarding the commercial aspect seems hardly sufficient to enable the committee to judge what would be the economic results, or degrees of industrial disturbance, should one or other method be recommended. Some incline to the view that the disturbance to those firms already working to limits would be almost equally great whichever way the decision is made, and that therefore having in view the progress of the industry and the benefit of national interchangeability, it might be wisest to disregard present conditions and recommend that which is considered ideally the best. As showing some of the practical difficulties of the situation, it is interesting to note that whereas some of the important firms of the country, whilst agreeing that theoretically the minimum hole basis may be ideally the best, they feel prevented from supporting it owing to commercial considerations.

TRAINING THE EX-SERVICE MAN.

The Minister of Labour has issued an explanation to candidates for training and to the public of the reasons why there has been difficulty in giving training under the Training Grant Scheme in the engineering trades. The Training Grant Scheme, he says, was devised to restore the supply of men of higher professional, business, and technical attainments, by selecting for training at State expense ex-Service men whose preparation for civil careers has been prejudiced by their war service, and whose family circumstances do not permit of their undertaking training at their own expense.

The scheme covers practically all professional, commercial, and business occupations. In the interests of the nation and of the individuals concerned, it is considered that ex-Service men should not be debarred from entry into any trade or profession, and it is not apparent that there is any adequate reason why an exception to this general rule should be made in the case of the engineering trades. The training is in no way intended to qualify men to compete with journeymen in the trade, but its object is to qualify them mainly for the commercial or office side.

The engineering trade unions objected to the introduction of the scheme on three principal grounds:

1. That the trainees under the Appointments Department Scheme would fill the better positions in the industry to which the ordinary industrial apprentices would aspire.
2. That many industrial apprentices were still with the colours and many trade unionists were out of work.
3. That the scheme would "militarise" the factories.

To meet these objections certain modifications of the original scheme were proposed by the Ministry, and these have for some time been under consideration by the trade unions. As regards the number of trainees, it is suggested that this should not exceed 1,750, which is less than one-third per cent. of the total membership of the engineering trade unions. As a further safeguard, the number of trainees in any one factory would not exceed 1 per cent. of the total number of employees in the works. It is proposed that, except in the cases of the disabled, the only candidates who will be considered for grants are those who, previous to their war service, had not entered upon civil careers in any trade or profession other than engineering.

The machinery through which candidates are selected for training under the scheme consists of interviewing boards sitting in all the principal towns of the United Kingdom. In order to ensure that no trade union principles are infringed it is proposed that the engineering trade unions should nominate representatives to sit on these boards.

It is thought that the misconceptions which have existed in the past can be removed if it is made clear to the members of the trade unions concerned that men in needy circumstances, and in some cases their own sons, may be selected to enjoy the benefits of this scheme and so may qualify for positions which, without this assistance, would have been out of their reach. Of the 3,731,291 men demobilised from the Forces up to December 5, no fewer than 3,257,480 have been reabsorbed in industry.

THE WAR GRAVES.

Lord R. Cecil, in the House of Commons, drew attention to a grievance owing to the attempt of the Imperial War Graves Commission to enforce on everybody a particular pattern of tombstone for the war cemeteries. Why, he asked, within certain limits imposed by the necessities of the case, should not the relatives be allowed to put up the monument that best expressed their grief? What he protested against was that the Government should say, "You are to have a certain kind of headstone and nothing else." There were many people who attached the greatest importance to the symbol. Many passionately desired to erect a cross. That seemed extravagant to the official mind. It was no use telling people that something else would do just as well.

Captain Brown said that if they were going to allow parents to put up any form of cross or tombstone, where were they going to stop? Tastes differed, and some tombstones put up might be distasteful to the relatives of soldiers lying near by.

Major Cohen said he could not imagine that any man now lying out there would like to think that just because his relatives had more money a more magnificent tombstone was erected over his remains than over those of his comrades.

Major Molson thought that the wishes of parents would not be to erect very gorgeous tombstones, but that they should be allowed to exercise a little individual taste. He regretted that the War Office would not permit the erection of small crosses.

Sir H. Nield said that the present arrangement of the graves left nothing to be desired. The cross was permitted to be cut upon these headstones. The proposal to have a uniform-shaped stone was most desirable.

Sir H. Craik said it was obvious there must be a limitation as to the size of the headstone, but greater variety should be permitted.

Mr. Churchill said that there were upwards of 500,000 graves known of for certain, but there were 100,000 others the Commission were not yet completely certain about. The space allotted to individual graves must necessarily be small. That imposed a physical limitation upon the size of the headstone and reacted upon its form. The Imperial War Graves Commission first thought of a stone cross as a successor to the temporary cross which marked the grave of a soldier, but found that the small size necessary on account of the size of the graves did not allow sufficient space for the men's names and inscriptions. Further, cruciform headstones were fragile, and too much subject to the frost and weather for enduring use. Thus the Commission were not driven to their present conclusions until they had attempted to solve the problem by a universal cruciform headstone. On the headstones used the cross was invariable, except where the personal wish or religion of the soldier rendered another form desirable. As compared with the cruciform headstone, an opportunity for inscribing nearly double the amount of lettering was given. It would be found that the limits within which variations were possible were very small, and that the difficulty of introducing an alternative cruciform headstone was very great. Lord Balfour of Burleigh and the deputation to the War Office and Imperial Graves Commission had consulted with experts, and produced an alternative headstone partially embodying the cruciform type, but it had found no favour from the point

of view of sightliness, and had not the dignity of the simple headstone. Lord Balfour had undertaken to submit another. He (Mr. Churchill) certainly would not allow a small difference in expense to stand in the way of the adoption of an alternative headstone if the other aspects of it were satisfactory. If it were possible to have this alternative it should be provided. Anything which could be done to extend the lettering and choice of inscriptions—within the limits available—would certainly be done. It was quite true that the wishes of the relatives should, as far as possible, be given full play within the limits allowed, but the collective aspect of these memorials ought not to be overlooked. They were unique memorials. There would be no cemeteries in the world that would be preserved so long as they would be, and the power of a great State, operating over the centuries, would keep these graveyards in a condition of repair long after the greater part of the memorials raised in this generation would probably have passed from view. No satisfactory cruciform headstone has been devised within the limits allowable.

Lord H. Cecil replied that the Commission should give up the ideal of a rigid uniformity and allow as much expression as the circumstances permitted to the lacerated feelings of the bereaved.

[It will be remembered that the headstones so severely criticised in the debate reported above were recently illustrated in this Journal.]

ARC LAMP CARBONS AND GAS MANTLES.

Among the key industries included in the Imports and Exports Regulations Bill are arc lamp carbons and carbon electrodes and gas mantles.

Arc lamp carbons are required for searchlights and in various other projectors and allied apparatus essential to war. Before the war there was only one firm producing them in the country. The factory has been extended during the war, and the industry shielded from the competition of the very powerful American and German organisations.

From a national point of view gas mantles are important in that by their use an enormously increased lighting efficiency may be obtained from coal gas. Ordinary coal gas burned in ordinary burners gives from three to five candle-power per cubic foot. By the use of the incandescent mantle the power may be increased to anything from 16 candles to 30 candles and more according to the pressure at which the gas is used. In war time the use of incandescent mantles for gas lighting becomes of much increased importance, because when benzol is stripped from coal gas, as has to be done in order to furnish supplies of benzol commensurate with our requirements, the candle power of the gas when burned in ordinary burners is enormously reduced and flat-flame burners became almost useless. Notwithstanding the loss of benzol the candle-power of incandescent mantle burners is practically unaffected. Before the war the consumption of gas mantles in this country was not more than 70,000,000 annually. The larger portion was supplied from Germany, and that by a very close trust or ring which, in 1914, was taking active steps to compel all outsiders to fall into line with regard to prices. The ring was in a position to do that because directly and indirectly it controlled the world's supply of thorium nitrate.

LEICESTER'S FACTORIES AND HOUSES.

Mr. W. Keay, M.Inst.C.E., F.S.I., lecturing on "Industrial Buildings: The Home of the Worker," to the Literary and Philosophical Society, at Leicester, said that in these days there was a distinct effort, on the part of employers generally, to make the conditions of the worker healthy and acceptable. These principles were reflected in the modern types of factory. An increasing number of firms in the city were encouraging the development of "welfare work," and a plan of a model factory would be incomplete without making provision for the social side of the worker's life.

As for the housing of the worker, he commended the wisdom and foresight of the Leicester Estate Committee in buying land in advance of the demand, land which could be held, and built upon as need arose. Plans had been prepared and tenders received for the erection of houses and as soon as weather permitted a start would be made. Of the buildings which composed the city of Leicester about 10 per cent. were cottages, so that, although aesthetically they were open to criticism numerically they predominated. Compared with other towns, Leicester was well-housed city. For the first time in the history of Leicester cottages, architects were to be employed in their design, and their knowledge and training should be of value.

The lecturer showed on a lantern screen pictures of many types of cottages, from mud dwellings at Naseby to the modern erections of concrete and steel fabric. He insisted that the builder should, in the main, make use of the material which was most economical in the district. Incidentally he expressed his opinion that wooden houses would be quite uneconomical in Leicester, and that it would be an economic mistake to import army huts there for dwellings. Mr. Keay offered illustrations of the sort of simple furniture which would be best adapted to the house on the Corporation's Coleman Road estate, and hoped that there would be exhibitions of the same, so that tenants might make their new artistic dwellings comfortable and artistic internally.

WAR MEMORIAL FOR KUT.

With regard to the movement on foot to erect a memorial for those who fell in Palestine, Major-General Sir Charles Townshend suggests in the "Daily Mail" that those who had the honour of fighting and dying for their country in the Mesopotamian theatre of war should be equally honoured. Both Palestine and Mesopotamia, he says, though secondary theatres of great import to England, and both were most closely allied as regards the strategic principal objective and issues. He makes the suggestion that the memorial should be a simple and modest one like the expedition; it might, for example, be a group of two soldiers, British and Indian, and on the tablets of the pedestal the names of the fallen might be inscribed. Kut would be a suitable site. Political considerations from the Arab point of view, it would be desirable, since they saw the Turks raise a memorial to the fall of Kut. Such a memorial would be of inconsiderable cost. In conclusion, Major-General Townshend states that if desired he would be glad to work on a committee in London to further a memorial for those who fell in Mesopotamia.

NEWS ITEMS.

Timehouse Hostel for Sailors.

proposed to erect a hostel for sailors total estimated cost of £150,000, of £60,000 has already been received.

Brampton Cottage Hospital.

proposed to erect a cottage hospital war memorial. Over £3,000 is in hand towards the project.

Clock Tower for Stockwell.

is to be erected as a memorial in the Elm Road at a cost of £2,000. The scheme is open to competition.

Clacton War Memorial.

on the recommendation of Sir G. Hartwell, A.R.A., as designer and architect of a memorial.

New Park for Coventry.

is proposed to purchase a park for recreation and show purposes. A memorial will be erected, and pavilions and an air swimming-bath are contemplated.

Harrow War Memorial.

local residents have decided to erect on the proposed war memorial a monument to cost £25,000, and, instead, to erect a monument.

Montreal's First Skyscraper.

Montreal, whose present building prohibitions are more than ten years old, will have its first skyscraper when the Canadian Pacific Railway obtains a licence to erect a monster sixteen-story building in the city's busiest centre at the intersection of St. Catherine, Peel, and Metcalfe streets. The building will cost £1,000,000.

Engravings for the R.I.B.A.

At the last general meeting of the Institution was announced that Mr. St. Clair Poynter had presented to the R.I.B.A. original drawings of the Palaces of Versailles, done to the order, and under the supervision of, P. P. Rubens. The meeting decided to send a vote of thanks to the donor.

Heating System at Constitutional Club.

members of the Constitutional Club have resumed the use of their premises in Amberland Avenue. In September, they surrendered their building to the Government for the use of the Ministry of Munitions. The club, which has 20 bedrooms, has been entirely re-erected, and a central heating system has been installed.

Municipal Aerodrome at Durban.

Durban Town Council recently had before them a report recommending the setting aside of fifty acres of land upon which to construct a municipal aerodrome. Immediate clearance and levelling of the ground was suggested; also, that 100-acre sites be laid out, round the aerodrome, for the erection of houses and workshops.

L.C.C. School of Building.

Between two and three hundred men have been trained for the building and construction trades at the L.C.C. School of Building, Clapham, and employment is required for them. They are ready to take up positions at once in all trades, in the capacity of workmen or improvers; some are fit for positions in the offices of architects or engineers.

The Subsidy to Builders.

The Ministry of Health has supplied to builders particulars of the superficial area of houses to which they must work if they are to get the Government subsidy. For a house of the "parlour type" with three bedrooms the superficial area of the building must be 625 ft. ; and for a house with four bedrooms 650 ft. For a "non-parlour" house the superficial area should be 578 square feet for a house with three bedrooms.

Non-Ferrous Materials.

The following particulars are published of the stocks (exclusive of old metal and scrap) in this country in possession of the Minister of Munitions on December 1, 1919. The figures given are in tons: Copper, 14,867; spelter (G.O.B.), 12,848; spelter (refined), 10,940; aluminium, 8,911; soft pig lead, 59,912; nickel, 1,800; antimony regulus, 2,950. A proportion of the above stocks is already sold to the trade for forward delivery.

L.C.C. and Electricity Supply.

A recommendation of the Finance Committee to sanction the borrowing by Hackney of £56,223, and by Hammersmith of £49,925, for the extension of local electricity undertakings came before a meeting of the London County Council.

Mr. H. H. Gordon said the essence of the Electricity Supply Bill now before Parliament was that local undertakings should not be allowed to extend with a view to local interests, but only in the interests of Greater London as a whole. There were enormous changes foreshadowed in the Bill to be effected through amendments moved in the House of Lords. The whole situation would be revolutionised; the question of London's electricity supply would once more be in the melting-pot, and everything would be in chaos and disorder. The Council had reason to complain that when the Bill had reached its last stage the Government suddenly altered its whole underlying basis. He suggested that the committee should postpone consideration of the applications from Hackney and Hammersmith, and that in the meanwhile the Finance Committee and the Special Committee on Electricity should reconsider their position. This course was agreed to.

Brussels Commercial Fair.

The International Commercial Fair to be held in Brussels in April next is being organised entirely by the municipal authorities of Brussels, under the patronage of the King of the Belgians, and also with the support of the Belgian Government and the province of Brabant. The Fair will consist of twenty-nine technical groups or categories, which will include the metal and electrical industries, construction materials, building, architecture, furniture, decoration of the interior of buildings, church furniture, and decorative and industrial art. Practically every important industry will be included. It is proposed to hold the Fair in four different localities. The first and largest will be in the Parc Royal (opposite the Royal Palace), which contains an area of 15,000 square metres, and which, it is calculated, will hold 1,400 stands, as well as open-air space for such articles as agricultural machinery. It is also intended to occupy the Palais d'Egmont, No. 31, Boulevard de Waterloo, which has an exhibiting area of 3,000 square metres, the Palais d'Egmont, and the Palais du Midi (situated close to the Gare du Midi). If further

space is necessary all arrangements have been made to occupy the promenade along the exterior Boulevard (Boulevard du Regent and Boulevard de Waterloo), and beyond if necessary. It is estimated that this will give them space for a further 700 stands.

TOWN DEVELOPMENT AND HOUSING.

Poplar.

The three housing schemes are expected to cost £100,000.

Campbeltown.

Campbeltown has decided to erect 200 houses, divided among three sites.

Girvan.

Girvan T.C. has approved a scheme for erecting sixty houses.

Pyrford.

A tender has been accepted for erecting eighteen houses to cost £17,214.

Acton.

The Council has accepted an offer to erect a hundred concrete bungalows on land bought or leased from the Council.

Renfrew.

Renfrew has granted permission to a local firm to erect two blocks of wooden-frame houses.

Beckenham.

Designs for fifty-four houses to be erected on section one of the Elmers End scheme have been approved.

Richmond.

Richmond T.C. have accepted a tender for building workmen's cottages, at a cost of £1,115 each.

Horrabridge.

The R.D.C. has purchased a further 1½ acres. A tender of £12,800 for the erection of sixteen houses has been accepted.

Rutherglen.

Rutherglen has amended its housing scheme, and 200 houses of three apartments and 200 of four apartments are now to be built.

Clydebank.

Clydebank T.C. has accepted a tender of £10,630 for the erection of thirteen houses. It is also obtaining a report on the cost of wooden houses.

Deptford.

Deptford B.C. are to hold a joint meeting with the Lewisham Council, when the proposed Garden City scheme for the boroughs will be discussed.

Walsall.

Thirty houses are to be erected for £740 each. The previous lowest tender was £1,000 a house, and it is stated that the reduction in price was due to the rooms being reduced in height.

Beeston.

Plans for the erection of forty-two houses have been approved. Forty-four acres of land have been bought by the Council for housing, and negotiations are in progress for another ten acres.

Exmouth.

The Ministry of Health has requested Exmouth Council to submit a housing scheme within fourteen days, in default of which no financial assistance will be given by the Government.

Burnham-on-Sea.

Tenders have been received ranging from £17,812 to £21,055 for the erection

of eighteen workmen's dwellings. Plans for the erection of fifteen other houses by a private firm have been accepted.

Rhondda.

Rhondda authorities are considering a proposal to build as an experiment six or eight houses by direct labour. It is stated that a thousand pounds had been spent on plans which the Ministry of Health had altered from time to time.

Paisley.

Paisley Corporation has been inquiring in Edinburgh regarding the cost of stone-built houses as compared with brick, as it had been stated that the stone houses in Edinburgh had been built as cheaply as those of brick.

Gateshead.

The Ministry of Health has rejected the scheme approved by the local authorities, which was to cost half a million. It had been proposed to erect 600 houses on 60 acres. The Town Council has requested the Ministry to receive a deputation on the subject.

Coventry.

The City Council have decided to purchase the artillery barracks in the centre of the city for £35,000. The buildings are old and have not been much used for many years. The ground is 3½ acres in extent. The site is spoken of as a possible place for the erection of a town hall.

Thornbury.

There are 297 houses to be built in the district. After a meeting between the Council and the builders the latter eventually agreed to combine in areas and formulate a scheme for undertaking contracts. The Council is also considering the working of some of the stone quarries in the district.

Sheerness.

The Ministry of Health has informed the Sheerness U.D.C. that the scheme submitted for the provision of 200 new houses is inadequate. The needs of the present population, without allowing for any increase, warrant the provision of 400 new houses. The Council will shortly submit a supplementary scheme for a second 200 dwellings.

Birmingham.

A number of offers from builders and others to erect houses on their own land and to sell them to the Council at agreed prices have been accepted. The Housing Committee has also decided to build 500 houses by direct labour. It is stated that only 10 per cent. of building-trade labour is available for house-building, the remainder being engaged on repair and factory work.

Roehampton.

A scheme to spend £1,300,000 on the Roehampton estate, and the building of houses, mainly of the working-class type, has been sanctioned by the Minister of Health. The estate covers 147 acres. The scheme provides for 1,194 working-class houses of various sizes and types on 75½ acres, or about fifteen houses to the acre. About sixteen acres have been reserved for allotments and open spaces.

Bermondsey.

A beautification and public amenities committee is to be appointed by the Borough Council. Among its duties will be the care and acquisition of open spaces, the planting of trees and shrubs in public streets, the improvement of waste spaces, and the cultivation by agreement with landlords and tenants of forecourts and front gardens.

Shrewsbury.

The Council has succeeded in reducing the cost of the Longden Road housing scheme, which originally provided for 164 houses at a gross figure of £160,371, or £978 per house complete. It is now proposed to erect fifty-six houses of the parlour type, and 108 of the non-parlour type, at an estimated cost of £816 and £742 respectively. The total gross cost is now £140,873, a saving of nearly £20,000.

OUR SMALL ADVERTISEMENTS.

A number of vacancies for architectural assistants in London offices are announced this week.

An architect is required to proceed to the East to carry out a commercial building in reinforced concrete.

There is a vacancy for a clerk of works in China.

Stockport County Council require an architect and a quantity surveyor for their housing scheme.

Messrs. Marsh, Jones, and Cribb, of Leeds, have a vacancy for a designer of "period" decoration and furniture.

Contractors approved by the Ministry of Health for building houses desire to enter into a contract with a firm for the manufacture of patent concrete blocks and slabs.

H.M. Office of Works invite tenders for the erection of an extension to the Telephone Exchange at Tottenham, and of a new head post office at Henley-on-Thames.

A preliminary examination for the admission of students and a final examination for those intending to apply for Associate-ship or Membership is to be held by the Quantity Surveyors' Association.

Architects' and Surveyors' Assistants are urged to join their professional union.

TRADE AND CRAFT.

Economic Building Corporation, Ltd.

The managing director of the Economic Building Corporation, Ltd., has just returned from Belgium, where his company are now in negotiation for a large building contract upon which it is anticipated a start will be made early in the New Year. He reports that building affairs are as complicated—if not more so—as they are here. The Government has not given any indication of action other than the suggested small contribution towards the cost of private building. Money is plentiful, and building materials cheaper than in this country, although a stiffening of prices foretells a rising market. He had an opportunity of viewing the various town planning schemes covering the devastated portions of Belgium, and all praise is due to the Belgian architects for the bold but painstaking way in which they have dealt with the problem. This building corporation is organising to undertake contracts in a very large way, and have arranged with various associated firms for the mass production of the necessary units to complete upwards of twenty houses per week, raising the number if necessary within a period of four months to thirty-five houses per week on any one site. To do this in addition to the arrangements mentioned above, they have purchased upwards of 500,000 tons of good blast furnace slag conveniently situated for despatch by railway or canal. They also expect to complete arrangements whereby they take over the entire output of a cement factory, thus ensuring a certain supply of materials necessary for concrete construction.

WEEKLY HOUSING REPORT.

The return issued weekly by the Ministry of Health states:

New schemes submitted to the Ministry during the week ended December 13 numbered 132. The total number of schemes submitted by local authorities and public utility societies is now 7,604, comprising about 56,500 acres. The schemes approved now number 3,007, comprising about 28,500 acres. Seventy-eight lay-out schemes were submitted, and sixty-three approved during the week, making the total number of lay-outs submitted 1,841 and the number approved 1,201. House plans representing 4,714 houses were submitted during the week, and plans for 4,761 houses approved. The total number of houses represented in the plans submitted is 75,170, and in the plans approved 59,964. Tenders for 19,599 houses have been submitted, and approval given to tenders for 15,987.

Under an arrangement made between the Ministry and the Building Resettlement Committee of the Joint Industrial Council of Building Trades, local master builders' associations have in many cases been consulted with a view to the erection of houses by the members of an association at a fixed price to be agreed upon between the association and the local authority. The agreement provides that the houses to be erected by the association under this arrangement shall be distributed among the members in accordance with the various resources. Meetings have been held in all parts of the country to discuss these proposals with local associations. The results of the meetings show that the associations of master builders are, on the whole, entering whole-heartedly into the scheme, and provisional arrangements have been made in eight districts for the erection of 2,625 houses under this scheme. In this figure are included 1,500 houses to be erected for the Town Council of Birmingham. Details of the schemes of local authorities dealt with during the week are as follow:

Building Sites.

Schemes Submitted.—The number received from fifty-seven local authorities was 128, comprising 429 acres, and bringing the total number of schemes promoted by local authorities to 7,516, covering approximately 53,900 acres.

Schemes Approved.—The number of schemes approved was 128, bringing the total number approved to 2,980, comprising about 27,900 acres.

Lay-outs.

Schemes Submitted.—Seventy-five schemes were submitted by fifty-one local authorities, bringing the total number of schemes submitted to 1,800.

Schemes Approved.—Sixty-three schemes, promoted by forty-eight local authorities, were approved, bringing the total number of schemes approved to 1,173.

House Plans.

Schemes Submitted.—Schemes representing upwards of 4,350 houses were submitted by sixty-two local authorities. The total number of schemes submitted represent present 72,328 houses.

Schemes Approved.—Schemes representing 4,549 houses were approved. The total number of schemes approved represent 58,399 houses.

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THE ARCHITECTS' JOURNAL

FOR

ARCHITECTS, SURVEYORS, BUILDERS & CIVIL ENGINEERS

With which is incorporated "The Builders' Journal."



COMPOSITIONS BY BOUCHET (IX.).



WALLASEY TOWN HALL, CHESHIRE: VIEW OF PRINCIPAL FACADE. BRIGGS, WOLSTENHOLME AND THORNELY, FF.R.I.B.A., ARCHITECTS.

THE ARCHITECTS' JOURNAL

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The Future

By MAJOR H. BARNES, M.P., F.R.I.B.A.

MEMORABLE year is closing. It may be that a still more memorable one is about to open. The Empire-breakers have been at work everywhere; dust and din of demolition is in our eyes and ears; seems incredible that barely a year ago four great empires at least retained some show of substance. Great brick structures, whose foundations were laid in the centuries that are gone, still presented to the light a slender appearance of solidity, broad based upon the past. He would have been a bold man who could have seen the débris that remains. The German Empire revealed itself as perhaps the most solidly compact organisation, politically and economically, that the world has ever seen; apparently as enduring as the great cathedrals—its fellows in time.

Russia, Austria, Turkey—all remained. Two-thirds of Europe under the control of organisations directly continuous without break or chasm from the fall of the Roman Empire to the present day. All are gone—everywhere the ruins lie awaiting the clearance that must take place before the new world can appear. It were well if there were any signs of the Master Architect and the plan upon which the future is to be built. Rather the confusion is of the Tower of Babel—conflicting designs, rival native plans, clamour for acceptance. The new states, Esthonia, Livonia, Czecho-Slovakia, Jugoslavia, all with their individual conceptions of their place in destiny, are busy erecting, with the materials they find, such structures as are possible and appear reasonable to them.

The forest is down and the squatters are on the land; the huts are pitched; log cabins are in course of construction. We have to wait for the new cities. Well, the old plan is used to waiting—order and harmony lag on. We are barely into the first stages of town-planning; little wonder if world-planning stays. Men are impatient, arrogant; there is no master mind. If there were it is odds against it being recognised. It is to be that experience, bitter experience, may yet be required to prove to the new world that it cannot reshape itself on the old lines of individual interests regardless of the just and proper rights of others. The resurgence of nationalism brings with it all the dangers of the past, but bears within it the promise of antagonisms developing into conflicts as tremendous and disastrous as that through which we have passed. There is no necessity which furnishes an opportunity; no difficulty without advantage. We have not come out of the war without the idea as to methods by which war may be avoided. We have brought with us some sense of a larger purpose than that which merely serves the interest of individual nations. The world-sense has been evolved: some perception of the inextricability of national welfare from the common welfare of the world now exists. Function precedes organism—it is the desire to see that produces the organism—to hear that gives us hearing. The desire to

realise the world-sense is producing, tentatively and clumsily, yet purposefully, the organism which we know under the name of the League of Nations. It is the culmination of all the efforts after political and economic federation that this world has seen. It needs, indeed, a great world architect—someone who can perceive the relationship of the parts to the whole, who, under this great roof, can house the separated units of social and political activity which we know as nations.

We are used to buildings to-day which have more than a single purpose to fulfil, in which are housed groups with differing functions, which, while maintained in relationship to each other, must have preserved to them, free from confusion, the space they occupy, the routes along which their activities proceed. To achieve this is the work of the planner, and it is only when this is effected that there can be said to be a plan. The world-planner seems not yet to have accomplished his task, but he is at work—not in one individual but in many; not in one nation but in all. May his task be fulfilled; may we see the foundations laid, and if we are not ourselves to witness the dedication of the great structure to its immortal purpose, may we build so that posterity, whose strange claim upon us, based on no logic but more insistent than any reasoning, shall say to us: "You builded better than you knew." It may be that in its official and national capacity the United States has withdrawn from this work. Let us hope, if this is so, it may, on reflection, yet set its hand again to the task. But if it be so, peoples are sometimes greater than their Governments, and though the stream may not flow through official channels, yet I am sure that from the West will return towards the East a volume of practical sympathy and goodwill, increasing that flood upon whose bosom the barque that bears all the hopes of man shall be borne into the haven of its desire.

International requirements do not exclude the consideration of national needs. They would be fatal if they did. The life of the whole depends on the vigour of its parts. The great world reconstruction must be accomplished by the rebuilding of national life. Reconstruction must always be a period of inconvenience and discomfort. We are in for a period of reconstruction. It involves to many the disappearance of much in sentiment to which they attach importance. It meets with opposition and obstruction. A division appears between those who would rather build and those who would retain existing structures.

We are on the eve of great happenings. Fortunately for us our past is saving us from much of the disturbance which in other places is filling the present. We have learned the value of ordered progress. We have discovered a means by which we may secure change without violence. It would seem that we are in for change. A determination has appeared to make such modifications in the economic structure of our society as

seem to many to threaten its whole fabric, and they are rallying to preserve what they consider to be essential to its safety.

They are wise men who can read the signs of the times; who can perceive the difference between what must be done, and what may be done; who know when the time has arrived to give solid expression to the ideals of the majority. No student of political and economic conditions but must be impressed with the fact that during the past year the thoughts of statesmen in home affairs have been engrossed by problems which in the past have been regarded as being outside of politics. Ireland, trade, education, temperance, the Church—these were the problems of the past upon which politicians exercised their minds and swayed the feelings of the people. To-day, urgent and imperative as to many of us seem some of these problems, it is away from them, and another field, that our energies have been directed.

"A Prosperous New Year"

WITH men who design and men who build hopes run high for a prosperous New Year. For never before were there equally strong reasons to feel confident that we are on the threshold of real prosperity, which will be the more gratefully welcomed because it breaks so long a sequence of war-stricken years, from which no industry suffered more acutely, while the professions related to it suffered more cruelly still. In 1920 national housing must surely begin in substantial earnest. Moreover, the Prime Minister has promised that other necessary kinds of building shall not be absolutely prohibited, that State restrictions on the supply of materials shall cease, and that, supposing the trade unions raise no insuperable obstacle, the supply of labour is to be strongly reinforced from the militant Services. According to Mr. Lloyd George, we are to believe very confidently—what we are very willing to credit to the full—that 1920 will be the first of a long series of unprecedentedly busy years for the builder. It is not possible to doubt the soundness of the forecast, which should hold good, in spite of the present more or less artificial shortage of materials and labour.

This promise of a great new era of unexampled prosperity must not be falsified by internal dissensions—neither by strikes and lockouts that, by bringing industry to a standstill, jeopardise the safety and welfare of the entire commonwealth; nor, among professional men, by internal squabbles that waste energy and sap vitality. To multiply the number of central organisations and thereby divide their strength is sheer stupidity. To exhaust precious energy in petty domestic jars is a wicked waste of forces that, properly disciplined and wisely directed, would be of inestimable dynamic value to the profession, raising its status and its standards, increasing its influence with the governing powers and with the general public, and, what is of at least equal importance, fostering and augmenting the means of professional development, such as architectural education, for example, a subject that cries aloud for regeneration to enable it to meet the new conditions with something approaching to adequacy.

But before the R.I.B.A. can set out with any confidence to preach the gospel of unity and efficiency, it must show a perceptible trace of the fine consistency of Chaucer's curate, who, having a sound doctrine to preach, "first he folowed it himselfe." But how shall the Institute proceed to set its own house in order? In a word, by using every legitimate means of bringing itself, its polity, even its constitution, into harmony with the modern spirit, into conformity with the requirements of this great new era of reconstruction into which we have entered or are about to enter. Clearly the Institute cannot continue to travel in the old grooves; it must improve its methods, extend its scope, widen its charter, broaden its policy. It must cease to be a mere relic of early Victorian days,

Possession has been taken of the railways, which are placed under the central administration of a strong bureaucrat. Power stations are to be taken possession of and placed under the control of provincial administrators. Coal mines are in the possession of the Coal Controller. Housing is being proceeded with as a great public enterprise.

All these things involve so radical an interference with the conditions of society that no thinking man but must realise that they can only result in a vast modification of the conditions under which we have lived. This new year will make this clearer still. We wait for the future. We stand on the threshold of a new world; it may be with hesitating feet, but there is no return. Wearied and fearful, we might desire to be entrusted with the care of an old world rather than the building of a new, but Time, with its events, is stronger than us all. Rest is not for us yet; we must go forward.

and become alert and active in positive and energetic pursuit of objects about which it has been too much accustomed to talk grandiloquently and to let it go that.

Is there not much fine new work to be done, independently of the huge accumulation of arrears to be overtaken? Then why is not the Institute getting conspicuously strenuous in doing it: The answer is as it seems to us: Because the Institute is not organised and equipped on modern lines. It has not quite shed the antiquated fallacy that to be active is to be vulgar; consequently the occasions on which it has been known to exert itself at all strenuously have been few and spasmodic.

Before the profession can hope to become united the Institute must reconcile the antagonisms within its gates. Petty jealousies between the grades of membership, and the existence of any inequalities of rights and privileges that tend to accentuate those jealousies, must forthwith cease—that is to say, every conceivable excuse for them must be scrupulously eliminated. And the central organisations of England, Ireland, and Scotland must join hands before there can be anything more substantial than a mere pretence of unity in the profession. It follows that London and the country, while preserving the diversity in things unessential which gives the character, must be in accord on all matters of principle on all vital issues; while intercommunication between the parent Institute and its offshoots in the Colonies and Dependencies must be more regular and frequent if it is to be effectual. Closer alliance with foreign societies is also very desirable where complete unity of the profession is really an earnest aim. Qualified architects will hold aloof from membership must be persuaded and encouraged to come in, and the general public must be systematically educated up to a due appreciation of the status and value of the profession.

How are all these drastic reforms to be effected within the short space of a year? It is not to be supposed that so much can possibly be achieved within so short a space of time; and while architects are, as we are perfectly assured, going to be at their very busiest on the practical side of the profession, yet it may be as confidently anticipated that in 1920 a good beginning towards the drastic reconstruction which must precede real unity in the profession will be made; and well begun is half done.

Not only a united profession, but a consolidated industry, including all grades and denominations, should be the ultimate if not the immediate aim; for there is no reason why all sections should not thus unite. Obviously it is within the power of an influential journal to assist very effectually this movement for unity; and that power we intend to wield during the coming year with renewed vigour and earnestness, and, we trust, with increasing effect.

Architectural Causerie

NE foggy day in Cheapside, one of those murky days when the combined activities of soot, smoke, mist, and damp render the streets mysterious—beautiful—the writer paused on the kerb to see the clock face of Bow Church—that ornate piece which is so envious of the doings of owners. In the fog Cheapside was irresistible; the upper parts of Wren's steeple could not be distinguished for the drifting vapour; the vulgar comedy and staring ostentation of the adjoining buildings were mercifully indistinct. It was an atmosphere to aid the imagination of all save the wheezy, asthmatic panting for breath. Standing aloof from the hurrying passengers the writer had a vision of the City as it appeared in the year 1798; the red omnibuses changed to mail coaches; the horse-drawn vehicles to the heavy drays and waggons of the period: there were hackney coaches licensed at Somerset House, smart high-wheeled phaetons belonging to Mr. Soames, and the town carriage of a director of the Honourable East India Company. Even a mounted policeman became for the nonce an officer of Volunteer Riflemen. There were the shops and tradesmen known to Lamb and Hood; there was the black-coated figure of John Soane, attended by an assistant, carrying a portfolio of drawings, evidently hurrying to the Bank. There is, in fact, a better picture of Cheapside of the past than the elevations drawn by Tallis could afford—a clearer insight into the lives of the drapers and haberdashers of the time than most books give, and a perfect picture of the ashen face of Mr. Isaac Smedley, hosier, of Golden Lane, Wood Street, returning from filing his petition.

The City of 1798 had all the characteristics peculiar to the streets of to-day. It was the same noisy, bustling, busy place, but the buildings were simpler, the incidental accessories were more honest and piquant, and the half-waistcoated houses of brick bristled with divers signs. Speaking of signs the "British Apollo" of 1710

I'm amused at the signs,
As I pass through the town,
To see the odd mixture—
A Magpye and Crown;
The Whale and the Crow,
The Razor and Hen;
The Leg and Seven Stars,
The Axe and the Bottle,
The Tun and the Lute;
The Eagle and Child,
The Shovel and Boot.

There are few good signs in London to-day, with the exception of those in Lombard Street, designed, let it be said, by eminent artists. Many latter-day artificers have apparently lost the art of polite advertisement; they have been forced out of the trade owing to the blandishments of the gilt-lettered and glazed fascia vogue. The futilities of the old signs can be put down to the ignorance of the period, rather than to any vein of national stupidity, for the Cockney of the past, as of the present, delighted in playing havoc with proper names.

It is difficult to understand what a Magpie could want with a Crown, or a Whale with a Crow; neither can we understand a Hen with a Razor. The sign of the Leg and Seven Stars was merely an orthographical adaptation of the League and Seven Stars, or Seven United

Provinces; the Axe and Bottle, an easy transposition of the Battle Axe, a significant sign during the Wars of the Roses. Of the Tun and Lute we gather an impression of the cheering effects of music and wine. The Eagle and Child had some definite meaning, but could not apply to old London; and the sign of the Shovel and Boot is sheer nonsense, unless we read into it Lord Fisher's message to "The Times."

And so we come to the "Swan with Two Necks," long a mysterious appellation for an inn. Originally the sign was written, "The Swan with Two Nicks." So opined Sir Joseph Banks in an address to the Society of Antiquaries in 1810 when the learned antiquary presented a curious roll of parchment, exhibiting the marks or nicks made on the beaks of the swans and cygnets in the rivers and lakes of Lincolnshire. A small alteration of one letter made all the difference to the meaning of the sign. Yet we read that the number of marks contained in the parchment totalled two hundred and nineteen, every one different. The outline was an oblong square, circular at one end, and containing dots, notches, arrows, or such-like figures, in order to constitute a difference in the marks of the swans belonging to different owners. The myrmidons of Good Queen Bess's day must have had a busy time in Lincolnshire when they punted about the fens to see if the law was being observed.

Architects have an especial fancy for the sign of the Goat and Compasses, which curiosity is supposed to have arisen from the resemblance between the bounding of a goat and the expansions of a pair of compasses. A fanciful but not appropriate suggestion. The sign in question belongs to the days of the Lord Protector, when it was the custom for enthusiasts to add Scriptural quotations to the names given them by their parents; for example, Praise God Barebones. This craze for sacred titles induced the coining of fresh names for places and things. The translation from "God encompasseth us" to Goat and Compasses is obvious, and seems quite natural. Perhaps Praise God Barebones preferred drinking his tankard of ale beneath the sign of the "God encompasseth us" rather than frequenting the roof of the "Devil and the Bacchanals."

Old Richard Flecknor, in his book entitled "Enigmatical Character," published in 1665, deals with the goodly ones and their proclivities as follows: "As for the signs, they have pretty well begun their information already, changing the sign of the Salutation of the Angel and Our Lady into the Soldier and the Citizen, and the Katherine Wheel into the Cat and Wheel; so as they only want their making the Dragon to kill St. George, and the Devil to tweak St. Dunstan by the nose, to make the reformation complete. Such ridiculous work they make of their reformation, and so zealous are they against all mirth and jollity, that they would pluck down the sign of the Cat and Fiddle, too, if it durst but play so loud as they might hear it."

The sign of "The Bag of Nails" is said to have formed the legend of the house frequented by smiths and carpenters. It is more possible that it owed its origin to the Bacchanals who in the days of Ben Jonson were wont to journey to an inn at Chelsea bearing this name, in order to make holiday. If Bacchanals has in the process of vulgarisation become Bag o' Nails, it is conceivable that

we may yet live to see the rendezvous of the Bag o' Nailians, perhaps in the neighbourhood of a wood-working factory.

* * * *

If we traverse the lanes of Hertfordshire and other counties we encounter the very common sign of the Chequers swinging in the wind to the monotonous squeak of hinges seldom lubricated. At one time it was common to see the name of the inn painted on the wooden lintol or the outside shutters. Some think the name to signify that the game of draughts was allowed in the tap-room as an interlude to the supply of draught liquor. Others are of the opinion that, in the reign of Philip and Mary, the Earl of Arundel of that period had a grant for the licensing of public-houses, and that the chequer-board, being a part of the armorial bearings of that nobleman, this mark was attached to his sign by the publican, in order to show that he possessed a licence. Both theories are disputed, for the records of the Society of Antiquaries hold a view of a street in Pompeii, presented to the society in the long ago by Sir William Hamilton, in which shops with the sign of the chequers are depicted. Perhaps it is better to take our refreshment free from draughts.

* * * *

The next sign is that of the Four Alls, the sign of an innkeeper who horsed the mail coaches on the Bath Road. The sign of the Four Alls consisted of the figure of a King, and on a label "I rule all"; the figure of a Priest, motto "I pray for all"; a soldier, "I fight for all"; and a coffin, "I hold all."

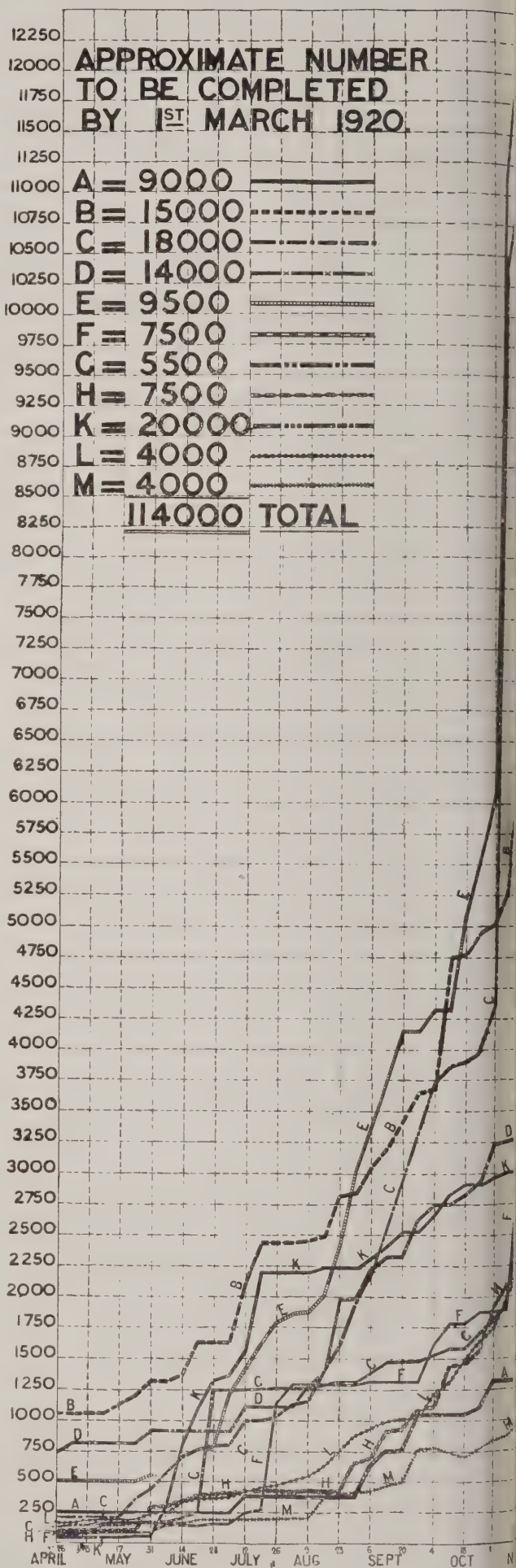
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And so we could chatter, for this subject is of fascinating interest, of matter that applies to the past of neat wigs, high-collared and tight-waisted coats, heavy seals, heavier silver turnips, malacca canes with tassels, and snuffy cravats. There you have it, Wardour Street, in a few lines.

* * * *

There are other signs; for example, the "Boulogne Mouth, i.e., The Bull and Mouth; The Cock, rendered famous by Themistocles; The Greyhound, a favourite of King John; The Horse, sole relic of the days of the pack trail; The Grenadier, of Hanoverian times; The Devil Tavern, that stood near St. Dunstan's in Fleet Street; The Mariner, recalling the Jolly Sailor, Mariner's Compass, Ship, Boat, Barge, etc., of seaside and riverside places; The Dog and Duck, recalling the favourite pastime of Londoners on a Sunday morning in the suburbs near the New River; The King's Head, recalling the usurpation of Cromwell; and the Cross Inn, meaning either the cross roads or perhaps being reminiscent of the days of Popery. There are Mitres by the score; Royal Oaks, sufficient to cover Enfield Chase; more "Mermaids" than ever came out of the sea. There are "Lions" in every path, golden, red, black, blue, and white. Many Castles, a few Bulls, sometimes with a convenient gate or a bush. There are also Black and White Swans, Bears, both brown and black; Bells and Crowns, Angels and Saracens' Heads; while World's Ends, and Worlds Turned Upside Down appear in out-of-the-way places; Nag's Heads, Magpies, and Crowns, Punch Bowls, Pea Hens, Fighting Cocks, Wrestlers, Feathers, Horns, Kings' and Queens' Arms, Apple Trees, Green Dragons, and a few bearing the sign of Robin Hood, and the Green Man of the Wood; White Harts and Half Moons, The Fox, with and without grapes; Lambs and Cherry Trees, Ploughs, Wheat-sheaves, Waggon and Horses, Eagles, Maypoles, and Horseshoes; while Suns, Stars, and Welsh Harps form sideshows; Crowns and Anchors, Coal Holes, Roses, and Falcons are an indication of old-world taste. I have reserved the George until the end as a compliment to His Majesty the King.

AERO.



(See Article on opposite page.)

A Review of Government Housing

LITTLE more than a year has elapsed since the signing of the armistice, and it is perhaps an opportune moment to undertake an impartial survey of the Government Housing Scheme. It must be presumed the principle involved in an extensive State-aided housing policy met the approval of the electorate, since the Bill giving it effect, placed upon the Statute Book on June 31, 1919, was passed by a newly-elected House of Commons by a large majority. A survey of the situation should therefore have as its object an assessment of the likelihood of the Government achieving success or failure in regard to the discharge of its self-imposed obligation.

In 1904-5 the number of new houses erected was 5,000, and although in 1912-13 this number had fallen to 5,000, possibly owing to the Finance Act of 1910, it was upon this figure that the present estimate of 500,000 new houses immediately required—was based. The principle accepted, it became necessary to decide upon whom the responsibility should be placed for making good the deficiency, and as already under the 1890-1909 Act local authorities were regarded as the housing experts in their districts, it was decided that the task should devolve upon them. The obligation, therefore, to submit a scheme within three months became compulsory, and in the event of their becoming defaulters in this respect the County Council or the Ministry of Health might step in and undertake the work. At this point an interesting precedent is established, for the Local Authority appears for the first time in history in a position to commit the State to an expenditure of the taxpayers' money.

During the later stages of the war almost every public speech contained some allusion to a condition of affairs which should be "fit for heroes," and one of the most frequent uses of this somewhat ambiguous phrase was in connection with housing. It was realised, furthermore, that most of the work undertaken in the past fell far short of the standard, which, if effect were to be given to these wishes, must henceforth be raised. Accordingly in 1918 a Commission was appointed, under the chairmanship of Sir Tudor Walters, M.P., which produced the now famous White Paper, and in pursuance of its recommendation the housing branch of the then Local Government Board was increased, and placed in charge of a Director; furthermore, qualified men, who had devoted many years to the study of this problem, were appointed to the technical staff of the department. Subsequently, in order to decentralise the administration, England was divided into eleven regions, each of which was in charge of a Regional Commissioner, who was to be assisted by an expert technical staff. In order that new forms of construction might be examined with a view to discovering their suitability for cottage building, a Construction and Standardisation Committee was formed, under the chairmanship of Mr. Dunn, F.R.I.B.A. Already many hundreds of constructional methods have been considered, many of which have been approved, and numbers of specimen houses have been erected.

It is not possible here to consider, or even to outline, the powers bestowed upon the local authorities under the Housing Act, but before passing on to the examination of the results so far achieved, it would be well to consider some of the many obstacles which have been encountered. In the 150 per cent. to 300 per cent. increase in the cost of building, but for which the entire Act would probably not have been introduced, it is scarcely necessary to say much. One of the first difficulties which arose was the shortage of labour. During the war there were no vacancies; furthermore, many men drifted into other trades, which they are now, in many cases, unwilling to leave. The present shortage in the building trade is estimated at 200,000. The unemployment, which before the war was 14 per cent., was in August only 5 per cent.,

most of which was casual. In common with all other industries, building is dependent upon transport, and the scarcity of trucks is still acute; the requirements are 7,000 per week, of which there are only three to four thousand available. Labour difficulties and restriction of output—the latter due for the most part to an unjustified fear of unemployment on the part of the operatives—are too universal to require comment. In many districts the local authorities are finding it difficult to induce builders to tender for housing schemes. This is to a large extent due to the fact that firms, which before the war would willingly have undertaken work of this kind, now find themselves occupied almost entirely in repairs, with which class of work there is almost five years of arrears to be made good. It is to be hoped, however, that the Minister's conference with the Building Resettlement Committee may be instrumental in overcoming this difficulty. Much delay has been caused in regard to the acquisition of land, a figure to which the district valuers could agree having in many cases been arrived at only after protracted negotiations.

Finally there are the financial difficulties, the most recent of which is for many local authorities the raising of the loan. It is possible that the powers bestowed under the Housing (Additional Powers) Bill may help them to borrow the money which they require. Many authorities hesitate, still failing to realise that their liability ceases at the yield of a penny rate. All that they have been asked to do is to aim at attaining, at the expiration of seven years as near as possible, to an economic rent, based upon a figure which it is presumed that the building would cost, were it to be erected at that date. As a working hypothesis, this figure is placed at two-thirds of the present cost. The remaining third will be written off as a war loss.

The difficulty of obtaining supplies of materials for housing schemes has been partially overcome. For the houses which have so far been approved a supply of 2,000,000,000 bricks, 28,000,000 slates, 2,500,000 yards of drain-pipe, 65,000 doors and windows; sinks, baths, latches, locks, and overmantles is available. This, then, is a brief list of some of the more salient difficulties with which it has been necessary to deal. In the light of them the result so far obtained may be examined.

With regard to housing, the first consideration is the site, which must be inspected and surveyed, after which a price must be agreed upon. So far applications have been made for the approval of upwards of 52,000 acres, sufficient, indeed, at ten houses per acre, to accommodate the half-million houses. Of this amount some 26,000 acres have received approval. That the delay which may have occurred with regard to these approvals is somewhat justified, may be gathered from the fact that the system of valuation has effected a saving on land alone of £400,000, between the price asked and that agreed upon. The next process is to prepare a lay-out scheme for the sites. This also requires careful examination before approval may be given. A high standard has been set by the Ministry. This must be maintained; but, at the same time, there must be no unnecessary extravagance, and the road charges per house must be kept at a minimum. In order that this may be achieved it is essential that no existing road frontage is wasted, and that no unnecessary new roads are constructed. Applications have been made in respect of 1,600 schemes, of which 900 have received approval. The cost of road works and sewers should not exceed an average of £50 per house. The next stage consists in the preparation of house plans and specification. Here, too, a high standard has been set, but in many cases plans have been prepared by persons with no special training in these matters; consequently much time must be spent, on the one hand, in effecting improvements, and, on the other, in deleting unnecessary expenditure and waste, often the result of

insufficient experience in the particular class of work. Nevertheless, plans for 67,500 houses have been submitted, of which over 53,000 have received approval. Finally, before building can commence tenders must be obtained, which in many cases require subsequent reduction to a reasonable figure—a process which entails much hard work. Already tenders for some 14,000 houses have been submitted, of which 11,500 are approved. A saving of nearly £70 has been effected per house, representing a sum approximating to £200,000.

Many unreliable figures have been given in regard to the cost of houses under the Government scheme. The following are taken from a White Paper, dated October 31, in which it is stated that the average cost of the houses for which tenders had then been approved, exclusive of land, road-making and sewerage, was for parlour type £779 and non-parlour type £660, the average price being £718. The average cost of land in the housing schemes of all authorities was £191 per acre.

As has already been stated, for the purpose of better administering the Act, the country was divided into eleven regions, which are as follows: Region A, Cumberland, Northumberland, Westmorland, and Durham; B, Yorkshire (North, East, and West Ridings); C, Lancashire and Cheshire; D, Wales and Monmouth; E, Staffordshire, Shropshire, Warwickshire, Worcestershire, and Herefordshire; F, Lincolnshire, Nottinghamshire,

Derbyshire, Leicestershire, and Rutland; G, Gloucestershire, Dorsetshire, Somersetshire, Wiltshire, Devonshire, and Cornwall; H, Hampshire, Isle of Wight, Sussex, Surrey, and Kent (so far as not in the metropolitan police district); K, Metropolitan Police District; Berkshire, Buckinghamshire, Oxfordshire, Northamptonshire, Bedfordshire, Huntingdonshire, and Hertfordshire (so far as not in the Metropolitan Police District); L, Cambridgeshire, Isle of Ely, Norfolk, Suffolk, Essex (so far as not in the Metropolitan Police District). A diagram which is reproduced on p. 798 shows in graph form the number of houses which have been approved in each region up to November 15. It will be observed that the number is far greater in the industrial regions, which, as might be expected, the requirements are larger. It has been noticed, furthermore, that the curve of approval tends to accelerate, and this may be taken as typical of the manner in which the schemes will develop. The process, indeed, may be likened to that of starting some big machine; the initial impetus required is enormous, but, this having been successfully applied, speed is rapidly gained, and the exertion may be relaxed. Each month more houses are being completed, and soon it may be hoped the full benefit of a year's strenuous work may be reaped; and the prospects of ultimate success, if viewed in this light, are by no means so hopeless as might be thought. Unthinking critics would have us believe. H. J. I.

Summary of the Principal Events of the Year

General.

IN our first issue, dated New Year's Day, 1919, we summarised the Government orders relaxing certain restrictions on building materials.

The Canadian Federal Government announced that a fund of 25,000,000 dols. would be available for housing loans.

In the February issues of this Journal appeared two important articles by Mr. P. J. Waldram, F.S.I., on avoidable waste in cottage and small house building.

The first premium in the Bolton School competition was awarded to Mr. C. T. Adshead, A.R.I.B.A. The first and second premiated designs were published in this Journal.

A vast new dock is under construction, at a cost of several million pounds, on the south side of the Royal Albert Dock.

Donations amounting to £80,000 were given to St. Andrews University.

The Westminster City Council passed the designs for the southern extension of Piccadilly Circus.

Considerable hostile criticism was provoked over the destruction by the postal authorities of a packet of etchings by Felicien Rops.

In the May numbers of THE ARCHITECTS' JOURNAL we summarised the views of many famous past-presidents of the Institute on the future of architecture.

The first prize in the competition for the British War Medal design was awarded to Mr. Wm. McMillan, of Chelsea.

THE ARCHITECTS' JOURNAL for May 28 was a special double number, dealing with housing design, construction, and materials.

The executive committee of the British School of Engineering received from an anonymous donor an endowment for a scholarship tenable at Rome for three years, and worth £250 per annum.

The largest stone yet quarried in the country was found this year in the Middleton Quarry, Derbyshire. It measures 23 ft. by 14 ft. by 10 ft., and was estimated to weigh 260 tons, and be worth £4,000.

A contract for rebuilding the Nancy district in France was accepted by three U.S. firms, and it was anticipated that the cost would eventually reach £100,000,000.

The site for a permanent home for the Ministry of

Pensions is being prepared at Acton. It is also proposed to erect a block of Government offices at Millbank.

A Peace Pageant of the Thames, with a procession headed by the King in the Royal Barge, was held in August.

Building operations, suspended during the war, resumed at Liverpool Cathedral.

A town-planning scheme for Jerusalem was drawn up by the British military authorities in agreement with the municipality.

The Cabinet decided to make permanent the Cenotaph that Sir E. Lutyens designed for temporary erection in Whitehall.

"An Analysis of Pre-war and Post-war Prices of Building Work" was contributed by Col. T. E. Coleman, R.E., to the August issues of this Journal.

In France the Government introduced a Bill sanctioning the issue of £20,000,000 in loans for the erection of cottages.

The fuel research and experimental station at Farnborough was completed and the plant installed.

A standard specification for roads and sewers was issued by the Ministry of Health, and reproduced in these columns for September 24.

"The Architect and His Work" was the subject of the inaugural address by Mr. J. W. Simpson, P.R.I.B.A.

At a meeting of the Shakespeare Memorial Committee it was announced that a site for the memorial theatre had been secured in Gower Street.

Housing.

The National Housing and Town-Planning Council submitted to the President of the L.G.B. a long and valuable memorandum on the housing problem, embracing many important proposals. The text was published in our issues of January 15 and 22.

It was announced early in the year that a model village would be erected near London for the guidance of local authorities in preparing their schemes.

Mr. J. Thomson, Dundee's City Architect, prepared a magnificent scheme for the future development of the city. His proposals, with plans, were given in THE ARCHITECTS' JOURNAL for January 29.

Birmingham Corporation sought special Parliamentary powers to borrow £1,000,000 for a housing scheme.

A Government Memorandum was issued giving

all the terms of financial assistance offered by the Government to Public Utility societies for housing purposes.

A manual on the preparation of State-aided housing schemes was issued by the L.G.B., summarising the steps taken by local authorities.

One of the principal competitions of the year was the "Daily Express" £1,000 Competition, the designs sent being exhibited at the Central Hall, Westminster, and attracting great public interest. The first prizes in the respective classes were awarded as follows: Class 1, Mr. J. McBeath, Sale, Manchester; Class 2, Mr. H. E. Es, A.R.I.B.A., London; Class 3, Mr. L. E. Cole, R.I.B.A., Newmarket.

The second reading of Scotland's Housing Bill was read in the Commons on May 5.

Another competition which attracted great public interest was the "Daily Mail" Worker's Home Scheme, which four £500 prizes were offered. Over 3,500 designs were submitted, and the four chief prizes were awarded to: Mr. H. L. Massey, A.N.Z.I.A.; Mr. E. Esmons, L.R.I.B.A., and Mr. L. Glencross, R.I.B.A.; Capt. A. C. Martin, F.R.I.B.A.

A housing exhibition was held at Birmingham in July, and a special City of Birmingham issue of THE ARCHITECTS' JOURNAL appeared on July 9.

New Zealand held a town-planning conference and exhibition.

The Building Resettlement Committee issued a final report on the supply of labour for housing schemes, and in the same week a revolutionary interim report on an organised public service in the building industry was issued by the Committee on Scientific Management.

Plans were provisionally completed for a new industrial town city to the north of London.

The problem of the conversion of large houses into flats was dealt with in our issues for August 20 and 27.

In the September issues of THE ARCHITECTS' JOURNAL we printed the standard specification for houses.

Resolutions urging the Government to sell its surplus stock of bricks, and to remove all restrictions from the building trades, were passed by the Building Industries Consultative Board formed by the R.I.B.A.

It was announced that the Minister of Health proposes to revise the building by-laws.

Glasgow's Housing Exhibition in October was opened by the Secretary of State for Scotland. It was one of the most important held, and prizes amounting to £100 were offered for designs and models.

The L.C.C. reported against the suggestion that rooms in new houses should be only 8 ft. high.

R.I.B.A. Transactions.

At a general meeting of the Institute Mr. M. H. Baillie read a paper on making old dwellings in town and country habitable.

"Factory Building Chiefly in Relation to the Welfare of the Worker" was the subject of a paper read by Mr. J. Buckland.

Mr. Leonard Stokes was elected as the Royal Gold Medalist for 1919.

A deputation from the Institute interviewed Dr. E. J. Rimmer and Sir James Carmichael to urge the employment of architects in the various housing schemes throughout the country.

A holograph M.S. of the original edition of Joseph E. Spence's famous "Encyclopædia of Architecture" was presented by the library of the Institute.

At the last meeting in March Captain E. J. Rimmer, barrister-at-law, read a paper on legal difficulties in the administration of a building contract, and defined the contingencies which may arise from its forms of contract.

A resolution adopting a revised scale of professional fees was passed at a special meeting of the Institute.

Other Societies and Institutions.

At the Institute of British Decorators Mr. A. S. Jennings read a very comprehensive paper on the education of the painter and decorator.

A special resolution thanking Mr. W. Kaye-Parry, F.R.I.A.I., the president, for his services was passed at the annual meeting of the Royal Institute of the Architects of Ireland.

Before the Surveyors' Institute Mr. E. Hills read a paper on acquiring land for public purposes.

The annual report of the S.A. showed that in all 370 members were serving with H.M. Forces.

At the annual meeting of the S.A. the secretary reported that an application had been received from Ireland for the formation of a branch, and that the Council had approved the proposal.

A deputation from the S.A. waited on the First Commissioner of Works to express the society's views on the official control of housing schemes and other works.

At the annual meeting in March of the Builders' Institute it was reported that a joint committee had been formed with the R.I.B.A. to facilitate the cordial co-operation of the two institutes.

"The Training of the French Architectural Student" was the subject of a paper read to the S.A. by Mr. A. Davis, F.R.I.B.A.

A professional union of architects and surveyors' assistants was formed during the year to protect and further their interests.

Important developments in architectural education were outlined by Major M. E. Webb, F.R.I.B.A., in the prize-giving speech at the A.A.

The Liverpool Architectural Society promoted an exhibition of cottage construction, materials, and fittings.

Sir Alfred Mond, First Commissioner of Works, was the guest of the S.A. at the first of the society's series of social gatherings.

A collection of drawings by students of the Ecole des Beaux-Arts was shown in the galleries of the S.A.

Obituary.

The obituary for the year includes the following names: Mr. Fred Bath, F.R.I.B.A.; Mr. Lucien Serailier; Mr. Wm. Cordrey; Mr. W. J. Davies, A.R.I.B.A.; Sir A. D. Dawnay; Mr. A. G. Lewis, F.R.I.B.A.; Mr. M. G. Martinson, Licentiate R.I.B.A.; Mr. J. Woolfall, F.R.I.B.A.; Mr. R. Plumbe, F.R.I.B.A.; Mr. W. Bell, F.R.I.B.A., who was in the service of the N.E.R. for nearly fifty years.

Personal.

Mr. H. V. Lanchester, F.R.I.B.A., left for India to join the Commission dealing with the development of Cawnpore.

Mr. (now Sir) James Carmichael received the K.B.E., and was later appointed Director-General of Housing in England and Wales.

Mr. Arthur Harrison, F.R.I.B.A., was elected president of the Birmingham Rotary Club.

Probably the most interesting personal event of the year was the election of Sir Aston Webb to succeed Sir E. J. Poynter as President of the R.A., an event which aroused great public and Press interest.

Major H. Barnes, F.R.I.B.A., F.S.I., was elected M.P. at the 1918 General Election.

The Senate of London University appointed Mr. A. E. Richardson, F.R.I.B.A., to the University Chair of Architecture.

Mr. J. W. Simpson was elected P.R.I.B.A.

Mr. (now Sir) Charles T. Ruthen, O.B.E., F.R.I.B.A., M.S.A., was knighted for his national services.

The L.C.C. appointed Mr. G. Topham Forrest, F.R.I.B.A., architect to the Council.

Sir Banister Fletcher, F.R.I.B.A. F.R.G.S., received the honour of knighthood this year.

The Design and Construction of Industrial Premises

By A. ALBAN H. SCOTT, M.S.A.

FOR a very long time industrial works have been looked upon by the general public, and in many cases by the authorities and technical men, as nuisances, but the war has brought home to practically everyone the importance of these works; and as probably most people now realise that almost everything used or consumed has at some stage or other to pass through some industrial premises, general interest is at last being taken in, and more encouragement given to, this class of work.

It has been urged that water traffic must be developed to its fullest extent; and with the present hopeless condition of railway traffic, which does not appear to improve but rather the reverse, inland water traffic is bound to become of greater importance in the very near future. With certain industries which require a comparatively large amount of transport very great care should be taken that the site of all new works of this nature should be selected in such a position that inland waterways can be tapped.

It is not necessary to select a site right on existing waterways; consideration should be given to the fact that comparatively long arms can be constructed at a low cost, and by this method a large amount of land opened up by waterways which has not in the past been considered.

Owing to the extraordinary condition of our housing at the present time, which will last for many years, in selecting and laying out large new works provision will undoubtedly have to be made for not only erecting the works themselves, but also for the necessary additional housing in a suitable district which would be available for easy transport of the operatives to the works, and for the further development of welfare work, which should be compulsory, to provide proper recreation grounds as an essential part of such development.

We shall have in future to look upon all industrial works in a very much broader spirit than in the past, not only with regard to the actual planning of the buildings, but in providing for the operatives decent and proper accommodation and facilities outside the works.

Personally, it appears to me that it is undesirable for the manufacturers to have the financial responsibility of such outside accommodation; but there is a grand opportunity here for the public utility societies to develop on these lines and make their activities even more useful than they are at the present time.

The great mistake made in starting new works is to look upon the future in a very narrow spirit; generally a site of much too small an area is purchased, and when further extensions are required at a later date it is either impossible to extend in that particular place or the value of the land is very materially increased.

The actual capital value of the land, excepting in large industrial centres, is generally comparatively small in relation to the whole capital required for the business, and any land which is not required for immediate development can generally be let off at some reasonable rental. Owing to the high cost of building, it will be found that the one storey buildings will develop much more than in the past owing to their economy and speed of construction.

In laying out the actual site plan showing the lines upon which the whole site

should be eventually developed, it is very necessary that the process of manufacture and sequence of process should be most carefully studied, and broad gangways and broad roadways provided so that when the complete scheme is developed, proper mechanical transport can take place from one part of the works to the other without congestion either for the mechanical transport or the necessary foot traffic. All doors, and in storey buildings all gangways, to lifts, etc., and the littways should be of sufficient width and size to permit of electric or other trucks going right through each main building. There should also be access by the wide gangways and proper lifts in order to make it possible to transmit from any part of the premises to any other part. This form of transport in the future will undoubtedly be one of the principal means of quick transportation through large industrial works, and great economy will be found by methods of this description.

During the last few years a very material advance has been made in the use of direct motor drives to each machine or set of machines, and this means that roof construction can be of much lighter material; and generally where shafting is desired from the roof trusses the height of the building is determined by the longest drive required for the machines. With direct motor drives one is enabled to construct buildings a little higher, and so get much more comfortable and healthy premises than we were able to obtain in the past. By adding an extra few feet in height the cost is only slightly increased, and cost should never be considered per cubic foot but per foot super of floor space; and with the elimination of shafting on the roof, some considerable modifications can be made in the actual roof construction.

It will be found absolutely necessary in these days, and no doubt also in future, to reduce the present cost of building, and as this is not likely to arise through the reduction of wages per hour or per week, it must be done in the way of extra production and economy in design. This economy can only be made by studying each individual unit which goes to make up the whole building, and the work thrown on the architects in future will be more in the nature of real scientific study and research work that has been the case in the past.

Naturally the by-laws have retarded, and still continue to retard, the progress in the building industry, not so much in the direction of their requirements for the particular materials they specify, but rather that they do not give any latitude with regard to the materials one may use. With the introduction of reinforced concrete it is generally felt that the local surveyors and local councils have realised that it may be possible to use other materials than those particularly allowed by the by-laws, and yet obtain equal strength at very much less cost.

With the method of framed structures which the local councils are gradually commencing to recognise, it is possible to introduce various kinds of walling which only act as enclosures, taking no weight but their own. This enables one to use to a very much greater extent local materials which have in the past been looked upon purely as waste. The housing question has caused such materials to develop

in a very astonishing way. There are many excellent and strong forms of building blocks, and, provided reasonable care is taken in the selection of the material and the manufacture, these will become very important elements in building construction in the very near future, giving proper protection from the weather, acting, as the walls should act, as enclosing material and not weight-carrying material.

This leads one also to utilise as far as possible the same unit of construction for the walls, also for the upper floors and roofs. This is extremely important not only from the point of view of economy but also that of speed, and although the method of using the same unit for walls, floors, and roofs is more or less in its infancy, great developments can take place on these lines. The following specification for certain forms of concrete blocks may be of interest, but the exact mixing and probably the proportion of water, etc., will be more or less determined by the nature of the materials used and the weather conditions at the time of mixing.

Cement.—The cement is to be Portland, of slow setting quality, and is to comply with the requirements of the current Specification of the British Engineering Standards Committee.

Ballast Aggregates.—The aggregate blocks for outside walling, unless made of waterproof clinker, are to be granite, hard stone, or gravel broken to various sizes and with sufficient clean sharp sand to fill up interstices.

The aggregate for blocks 4 in. thick shall pass a $\frac{1}{4}$ in. square mesh; for 3 in. $\frac{3}{4}$ -in. square mesh; for $2\frac{1}{2}$ in. a $\frac{1}{2}$ -in. square mesh; for 2 in. a $\frac{1}{2}$ -in. square mesh; and for concrete less than 2 in. thick $\frac{3}{4}$ in. square mesh.

Composition.—The concrete for blocks of various thicknesses is to be composed by measure as follows:

4 in. thick blocks, six of aggregate to one of cement; 3 in. thick blocks, five of aggregate to one of cement; $2\frac{1}{2}$ in. thick blocks, four of aggregate to one of cement; 2 in. and less, four of aggregate to one of cement.

Frogs.—Blocks of ballast concrete may be with frogs, the minimum thickness being a 4-in. block being $2\frac{1}{2}$ in., and in a 3-in. block 2 in.

Clinker.—The concrete for blocks made of clinker shall be composed as under:

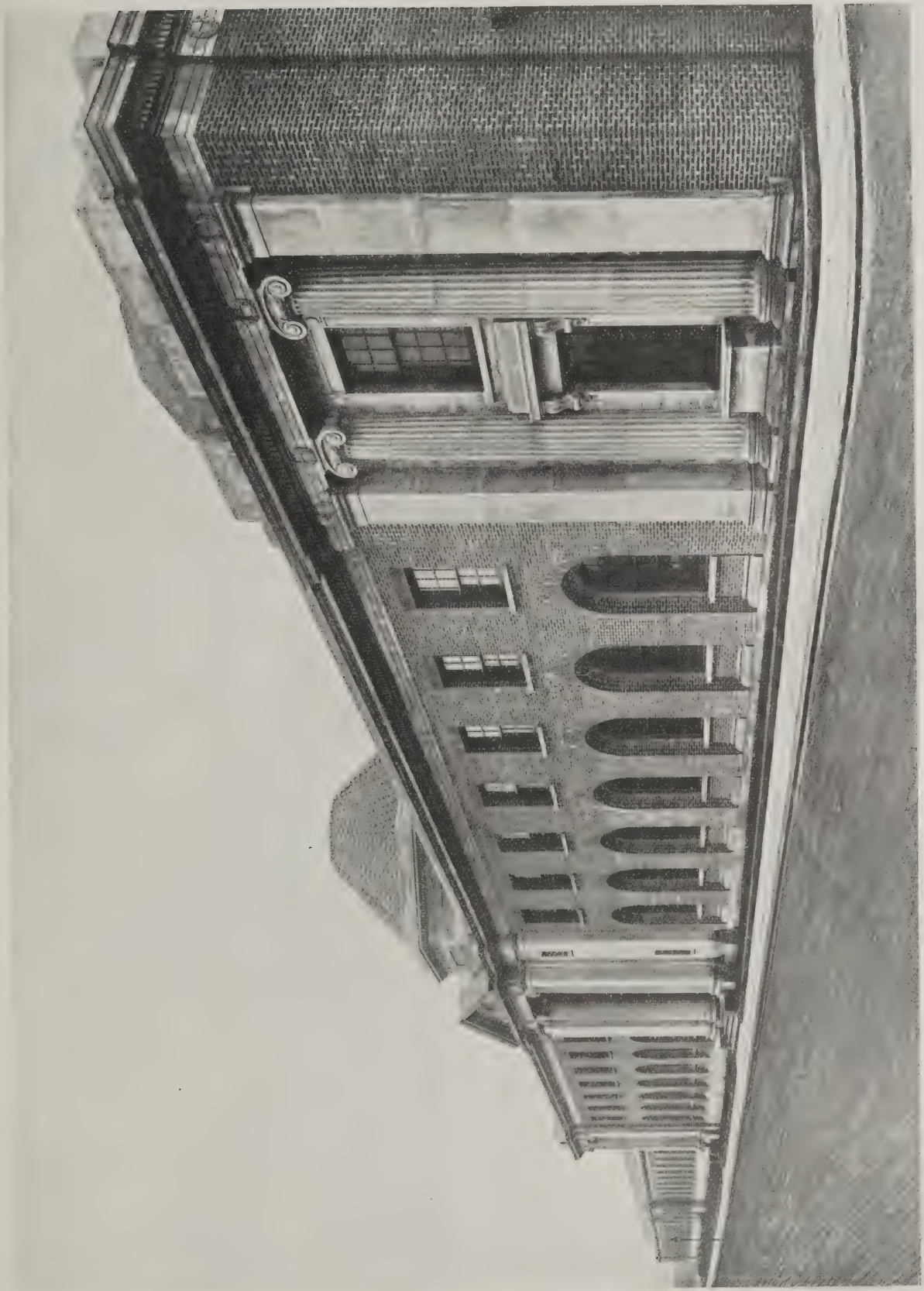
3 in. thick and upwards, six of clinker to one of cement. Under 3 in. thick, four of clinker and sand to one of cement. A proportion of sand, not less than 5 per cent. and not more than 10 per cent., should be added.

Composition.—The clinker must be dense, vitreous, free from organic and combustible matter, and crushed to pass a $\frac{1}{2}$ in. square mesh. All clinker to be well washed and screened before use.

Sizes.—Blocks made of clinker concrete should not exceed 18 in. by 9 in. for 4 in. and 3 in. thicknesses, and 24 in. by 9 in. for $2\frac{1}{2}$ in. and 2 in. thicknesses.

Waterproof Face.—Blocks made of clinker concrete, if used for exterior work, shall have all faces and edges composed on the outer face of the wall of a weathertight with a waterproofing composition.

Mixing.—All materials are to be accurately measured. The aggregate and



NEW WORKS FOR THE SKEFKO BALL-BEARING CO., LTD., LUTON. SIR A. BRUMWELL THOMAS, F.R.I.B.A., ARCHITECT.

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NEW WORKS FOR THE SKEFKO BALL-BEARING CO., LTD., LUTON: END ELEVATION.

SIR A. BRUMWELL THOMAS, F.R.I.B.A., ARCHITECT.

ent are to be mixed together dry until mass is uniformly coloured with the ent.

ater.—Sufficient water is to be used ing the process of manufacture to ure the thorough setting of the cement hough the entire thickness of the block. ge.—No blocks are to be used for ding until they have been properly ured.

view of the fact that these enclosing s have only to carry the wind pressure their own weight, it will probably be d more economical eventually to use e materials somewhat thicker than at ent proposed, using either a smaller portion of cement or a different kind of ent and/or lime.

he cost of cement for building work very serious matter at the present ment, and where such a large amount equired for industrial premises earch work is very urgently wanted to in some kind of cementitious mate- which will be suitable for use where i high quality material as is at present he market is not essential.

There is also a very large field for obtaining suitable building materials for work in factory buildings in the form of waste materials, subject to certain mixtures and consolidated by pressure and steam treatment. Some considerable work has already been expended on this, and if each individual architect who is associated with large industrial buildings would press forward for this class of material there is a possibility that the present enormous cost of building might be considerably reduced.

The floor is a part of the structure requiring the most careful consideration; and the nature of the floor is generally determined by the processes carried on in the various works. It is found that the finished material over the surface concrete can be made of a very much less thickness if this is applied immediately the surface concrete is laid so that the surface concrete and the paving form one complete homogeneous mass; and in many cases $\frac{1}{2}$ in. rendering of granite chips or metallic slag will be equally as serviceable as the same paving laid $1\frac{1}{4}$ in.

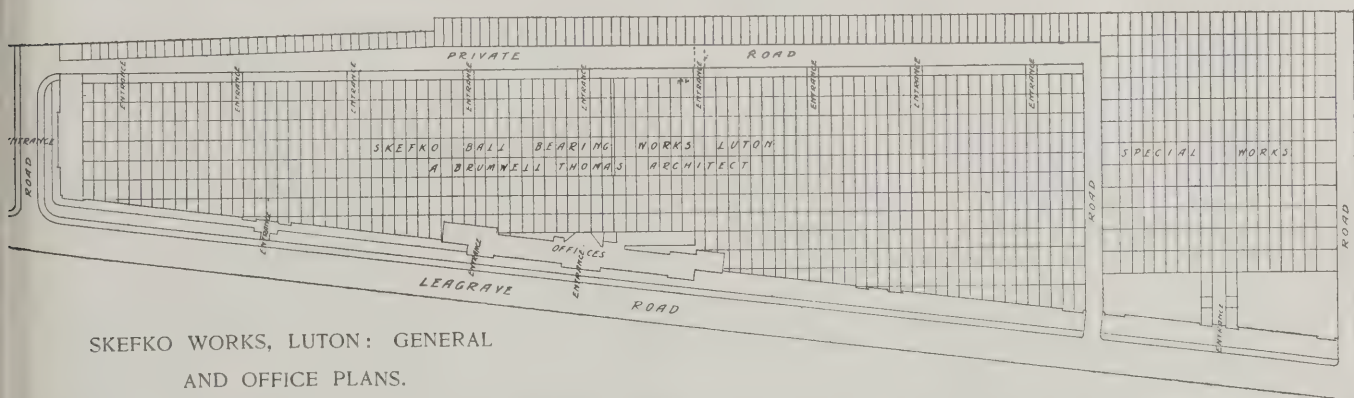
thick on concrete which has been allowed to dry before the application of the paving material.

The point at which this paving should be left untouched by the trowel is of the utmost importance, as it is undesirable to get the case-hardening effect to the paving.

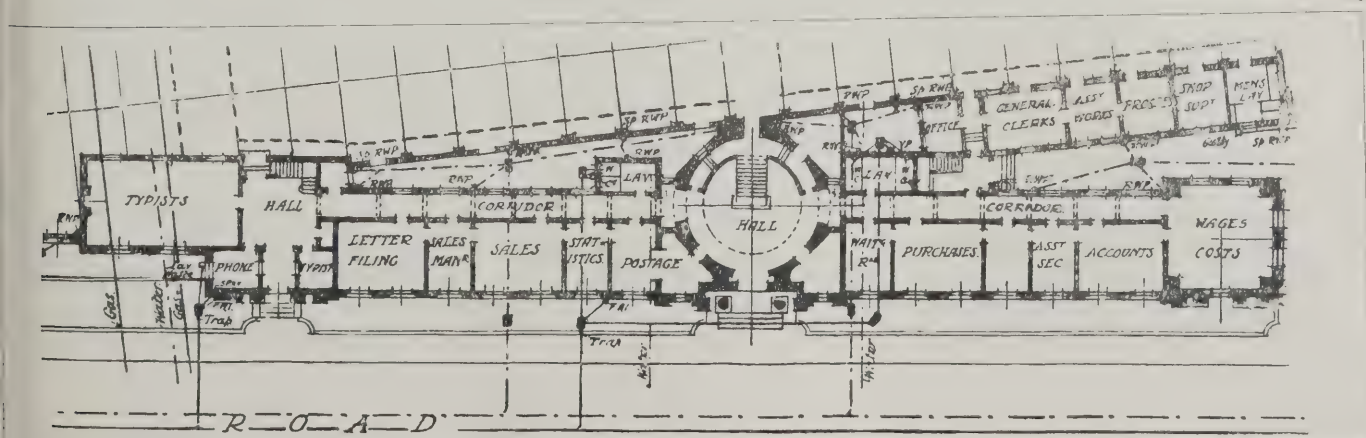
The ordinary 3 in. wood blocks laid on edge form undoubtedly the most suitable floor for heavy works. The cost is extremely high, and it may be possible to get blocks of this size made of some artificial material to give the same result and the same evenness as the original thick wood blocks.

Except for very light workshops, it is not advisable to use blocks of less depth than $2\frac{1}{2}$ in. or 3 in., and care should be taken in all these cases to have a space of at least $\frac{1}{2}$ in. alongside all walls filled in with a very weak mixture of lime-mortar in the proportion of about 20—1, so that the expansion and contraction in the wood blocks can take place without either pushing the walls out of place or the bulging of the blocks.

MIDLAND RAILWAY



SKEFKO WORKS, LUTON: GENERAL AND OFFICE PLANS.



Much greater use could possibly be made of so-called waste material such as the sand coming from the China clay deposits in the south-west of England, where there is a great quantity available for use, and such material would form excellent pavings where hard wear is required.

The tendency for all industrial premises (except where shafting is carried by the stanchions) is for wider spans, so as to give greater latitude and freedom in designing the lay-out of the plant and also to allow all modifications to take place from time to time as different and improved machinery is introduced.

Where considerable spans are introduced with few columns, it is possible to lay out a scheme so that main permanent gangways through each large shop can be always maintained and round each of the comparatively large posts can be conveniently concentrated certain heating units and also portable fire appliances, such as pails of sand and water and chemical extinctors.

With the large spans the design of the roof is materially different from that in buildings where the ordinary spacings of columns are used. There are many forms of economical roofing, one of which is the Warren roof truss, and if details are thoroughly attended to these roofs work out quite cheaply. Where shafting is not carried on the roof it is possible to space the steel trusses economically 15 ft. or even 20 ft. apart, by using properly designed trussed purlins with a combination of wood and metal.

There are numerous kinds of roof covering, and some artificial slates have had a considerable number of years' trial; and apart from their disagreeable appearance they would seem to be suitable for many classes of work. In a good many developments taking place at the present

time the boarding and battens can be omitted altogether, the final roof covering spans from purlin to purlin, giving satisfactory results without undue weight or undue maintenance.

Gutters between roofs require most careful design and workmanship, and no risk should ever be taken in these. It is essential that their formation should be as perfect as possible and the details carefully attended to, and the down pipes placed so that they are not easily destroyed accidentally by traffic, etc.

In the design of the elevations and also the internal treatment of the works ornament should not, in the opinion of the writer, be introduced purely for the sake of ornament; but great care should be paid to the economical use of the material in order to obtain the desired results by good proportions, and this requires to be most carefully studied. The introduction of various treatments of the same material often gives very excellent results without costing any undue amount.

Elevations to industrial works should never be other than pleasing, and there is no reason for them to be anything but of the very best architecture. Some of our most successful elevations have been obtained, not by expensive ornament, but by the careful study of texture of material, proportion, and the reasonable breaking-up of the surface. This is a line of thought which should be developed more than has been done in the past.

It is earnestly hoped that with the greater variety of materials which are bound to come on the building market during the next few years architects will devote a good deal of attention to making it possible for these new forms of construction to be correctly used, and that they will modify their designs to suit the new conditions and so maintain the true architectural spirit, which should not be

divorced from industrial buildings. There is no reason why industrial buildings should not contain the true architectural spirit of design.

Notes on Factories Illustrated

Skefko Works, Luton.

The new works for the Skefko B. Bearing Co., Ltd., at Luton, are remarkable for the architectural dignity of the elevations, and Sir Brumwell Thomas F.R.I.B.A., the architect, is to be congratulated upon the very great success which he has achieved. The frontage of the main building is about a quarter of a mile in length, and the total area of the buildings is about 5 acres. A notable feature is the grass forecourt, the buildings being set back 20 ft. from road.

The outline plan necessarily omits details of internal arrangement involved in providing for the many very complicated processes of manufacture (that go to make a ball-bearing), and for the general welfare of the workpeople. Great care has to be exercised in warming and ventilating a building from which all light except from the north is excluded, and in which the sun never reaches, and very special care is necessary with the electrical lighting for mechanical operations working to a ten-thousandth of an inch.

The work was commenced in 1916 and occupied three years in its erection. Then being war-time, when everybody was doing everybody else's work, it fell to the architect to design even the great electrical power scheme, and a knowledge of volts and amperes and automatic circuit breakers was even more important than a knowledge of the details of the



NEW TRANSFORMER TANK HOUSE FOR THE BRITISH WESTINGHOUSE AND ENGINEERING CO., LTD.,
WALLIS, GILBERT, AND PARTNERS, ARCHITECTS.



INTERIOR OF NEW TRANSFORMER TANK HOUSE FOR THE BRITISH WESTINGHOUSE AND
ENGINEERING CO., LTD.



INTERIOR OF NEW PREMISES FOR THE UNITED SHOE MACHINERY CO.

Erechtheum on which the external design is based.

The factory is a hive of electrically driven motors of all sizes. In considering the conditions under which the work-people spend their working-day one wonders what effect all this electricity has upon them.

The external elevations are in Portland stone and Collier's special made bricks, five courses to the foot, in stretcher courses, only 9 in. by 9 in. bonding courses. The roofs and dome are in Collier's Roman tiles, with large 6 in. rolls, with specially made hip and ridge tiles bonding the rolls.

Messrs. Wm. F. Bray, Ltd., were the general contractors, and sculptural work was executed by Mr. C. H. Mabey. The following were sub-contractors: Messrs. Belshaw and Co. (electrical power, telephones, and lighting); Messrs. Jeffreys and Co. (heating and hot water); Messrs. Redpath, Brown, and Co. (steel structure); Messrs. F. J. Barnes (Portland stone); Messrs. John Tanner and Son (stucco entrance and dome); Messrs. Trollope and Colls (panelling and fireplaces to directors' room); Messrs. Gill and Reigate (furniture of directors' room); Messrs. Drew and Fountain (office furniture); Messrs. James Gibbons (locks, etc.); Messrs. Merryweather and Sons (fire hydrants and appliances); Messrs. The Crittall Manufacturing Co. (iron casements, storage bins); Messrs. The Art Pavements and Decorations, Ltd. (marble staircase and pavings); Messrs. The Sterling Telephone Co. (intercommunicating telephones); Messrs. The General Electric Co., Ltd. (factory lighting fittings).

Transformer Tank House and Other Premises.

The new transformer tank house for the British Westinghouse and Engineering Co., Ltd., and the new premises for the United Shoe Machinery Co. (pages 806 and 807), were erected on the Kahn system of reinforced concrete (Trussed Concrete Steel Co., Ltd.). They are admirable examples of correct practice in the design of industrial premises. Points to be noted in both cases are the great area of window space provided, thus ensuring the maximum amount of natural lighting in all parts of the buildings, and the large amount of floor surface available

owing to the comparatively small scantling of the pillars and the distance at which these are set apart. The interior view of the Westinghouse building shows 24 in. by 12 in. reinforced concrete crane beams of 16 ft. span. In connection with these buildings the following general notes, specially provided by an expert in reinforced concrete construction, will be read with interest.

No factory nowadays should be built in other than a fire-resisting material, and of all the methods of construction the most successful in that respect appears to be reinforced concrete. Indeed, many claim that a properly-designed factory in reinforced concrete is, so far as the structure is concerned, absolutely fireproof. The type of building varies, of course, with the nature of the work for which the factory is intended. There are, for example, single-storeyed buildings of what is termed the saw-tooth variety with roof lighting. There are single-storeyed buildings constructed for the use of overhead travelling cranes, and the warehouse type of building consisting of two to, say, six storeys.

In some establishments all these types are in use. There is much to be said for each type, and if land is cheap the single-storey building has undoubtedly many things to recommend it. On the other hand, it is more expensive to erect, and it covers a larger area, thereby being more difficult of superintendence. The single-storey building is best where the manufacture is of a heavy and bulky nature.

Against the multi-storey building the question is often raised whether in the case of machine shops the vibration will affect the working of precision tools, such as grinders, but in practice these modern reinforced concrete structures appear to have wonderful rigidity. A notable example that has been brought to my attention is the large six-storey machine shop of the Gramophone Company at Hayes. In this building the absence of vibration is so marked that Brown and Sharpe surface and cylindrical grinders can be worked on the top floor within a margin of error of half a thousandth part of an inch, despite the fact that all the motors (25 h.p.) on the floor below are suspended from the ceiling and directly connected to overhead shafting by short chain drives. One could make one's building a combination of single-storey and

multi-storey buildings in this way and the whole area of the factory on ground floor an unbroken space with, of course, the exception of stanchion pillars for supporting walls or roofs.

Reinforced concrete appears to be fireproof than any other form of permanent structure, and insurance companies allow a very large reduction in premium for these buildings. In addition, strong, safe, and vermin-proof, and be adapted for various designs and requirements, and can be so constructed to give most light and best heat, and exceedingly sanitary in all respects.

One point of objection that is sometimes made is the difficulty of fixing hangers for machinery, running pipes and wires, etc., through the building, but these matters easily overcome if properly considered in the original design of building. Slotted inserts and other details are cast in the concrete, which makes lining of shafts a much simpler operation than is generally the case, and other provisions are made in the way of channels to meet all contingencies.

In reference to the lighting of factories a Departmental Committee went into the matter, and a report was issued in the autumn of 1915. They say: "It is recognised that defective illumination may be a contributory cause to accidents, more injurious to the health and eyesight of workers, and may exercise a prejudicial effect on the output and quality of work." The Committee paid a series of visits to various industrial centres and went on to number of factories and workshops, where they took some 4,000 measurements of illuminations. They found that though a vast improvement in lighting had taken place during the last ten years, there was yet a number of defects to be overcome. That inadequate lighting is a contributory cause of accidents was confirmed by the evidence of witnesses regarding accidents in foundries, shipbuilding yards, and cotton mills. It is also recognised that improved lighting adds to the difficulty of proper supervision of work, and maintenance of cleanliness and sanitary conditions generally. The suggestions made were that over working areas of work-room illuminations measured on a horizontal plane at floor level should be not less than 0.25 foot-candle without prejudice to the illumination required for the work in foundries 0.4 foot-candle.



THE VI-SPRING WORKS, ACTON. A. ALBAN H. SCOTT, ARCHITECT.



ERECTING SHOP OF A MOTOR CAR WORKS, BASINGSTOKE. A. ALBAN H. SCOTT, ARCHITECT.

Vi Spring Factory.

The Vi Spring factory was recently erected from the designs of Mr. A. Alban H. Scott. The offices and showrooms are arranged on the front, and a communicating gallery gives a complete view over the whole of the main work-room.

The general framework of the building is of reinforced concrete, but the roof is constructed of steel. The main room measures 120 ft. by 80 ft., with only one central column. The roofs are covered with boarding and slates, the glazing being lead-covered steel bars.

The floors in the offices and gallery are laid with Dolomont jointless paving, the main workroom being laid with wood boards placed on the fillets embedded in the concrete; certain rooms are paved with metallic paving. The whole of this block forms a very complete and compact factory of moderate dimensions.

Erecting Shop of a Motor Car Works.

This is a particularly fine example of a modern factory interior, admirably lighted and equipped. The shop has an area of 23,760 ft. super, without internal columns. The main structure is a steel-framed building with steel-work roof, having a span of 70 ft., the underside of the trusses being formed to take light travelling runways. The roof covering is of wood boards, felt, and mineral rock asphalt. The wall panels are filled in with ashes and 9-in. brick walls. The floor is formed of 3-in. creosoted wood blocks. Mr. A. Alban H. Scott was the architect.

S.A.A. Factory, Blackheath, Birmingham.

With regard to the small arms ammunition factory at Blackheath, Birmingham, designed by Messrs. Buckland, Haywood and Farmer, F.F.R.I.B.A., the practically unlimited site which was available enabled the proprietors to adopt almost throughout a single storey building as the cheapest and speediest method of construction, and reinforced concrete contributed in no small degree to both these results. The work consists roughly of main factory building, boiler and producer-house, sub-station, canteen, loading sheds, and warehouse.

Main Building.—This covers an area

approximately 502 ft. by 340 ft., and is 18 ft. high from the ground level to the column ties. The roof is formed of Belfast trusses with lantern lights over each bay.

The main departments of this building are the case shop, 210 ft. by 260 ft.; bullet shop, 140 ft. by 260 ft.; tool shop, 150 ft. by 90 ft.; examination shop, 240 ft. by 44 ft.; and two muffles shops, each 60 ft. by 110 ft.

In addition to these there are the carpenters' shop, case cleaning shop, final case cleaning shop, bullet wiping shop, hardening shop, etc., and various stores.

As will be seen from plan, the whole building, with the exception of the cloakroom, muffles, case cleaning shop, and carpenters' shop, was formed in bays 22 ft. wide, the columns being set at 22 ft. centres in both directions. The muffles bay is 60 ft. wide, the roof being supported by trusses of that clear span.

The cloakrooms are 422 ft. long by 31 ft. wide, and the roof over this part of the building is formed of reinforced concrete slabs, 5 in. in thickness, carried on beams, 7 in. by 8 in. spanning 22 ft., in which lantern lights are set at appropriate intervals.

The offices occupy two floors, a mezzanine floor being constructed at a height of approximately 8 ft. 6 in. from the ground level. This floor is 110 ft. long by 22 ft. wide.

The wall columns are from 11 in. square to 16 in. by 17 in. in section on footings, 2 ft. 6 in. square, the remainder of the columns are octagonal in section, on footings of the same dimensions as for the wall columns.

From front to back of the building tee beams are formed along the columns, the majority consisting of a 15 in. by 6 in. flange on a 14 in. by 6 in. web. These beams support the roof trusses, which are set at 11 ft. centres throughout the bays. In order to provide for expansion, all these tee beams are formed in three sections, two expansion joints having been provided for in the length of each bay. For this purpose, cantilever brackets, 33 in. by 11 in. in plan, were formed on two of the rows of columns across the building, and a space 1 in. clear was left between the ends of the beams.

The wall columns are tied at eaves level,

the ties varying from 20 in. by 9 in. to 27 in. by 11 in. in section.

The footings are from 2 ft. 6 in. to 3 ft. square, 6 in. in thickness at the outer edge, increasing to 12 in. at the centre.

The suspended office floor is formed on a 4 in. slab, carried on beams, 8 in. by 8 in. in section. In the long direction the office floor these beams are carried on main beams, 30 in. by 9 in. in section, spanning between the columns, projecting 18 in. above the slab.

The boiler and producer house is 120 ft. long by 47 ft. wide, and is divided into two sections.

The warehouse covers an area 220 ft. by 60 ft., and is divided into two sections by a wall 60 ft. from one end. It is 15 ft. high from the ground level to the column ties.

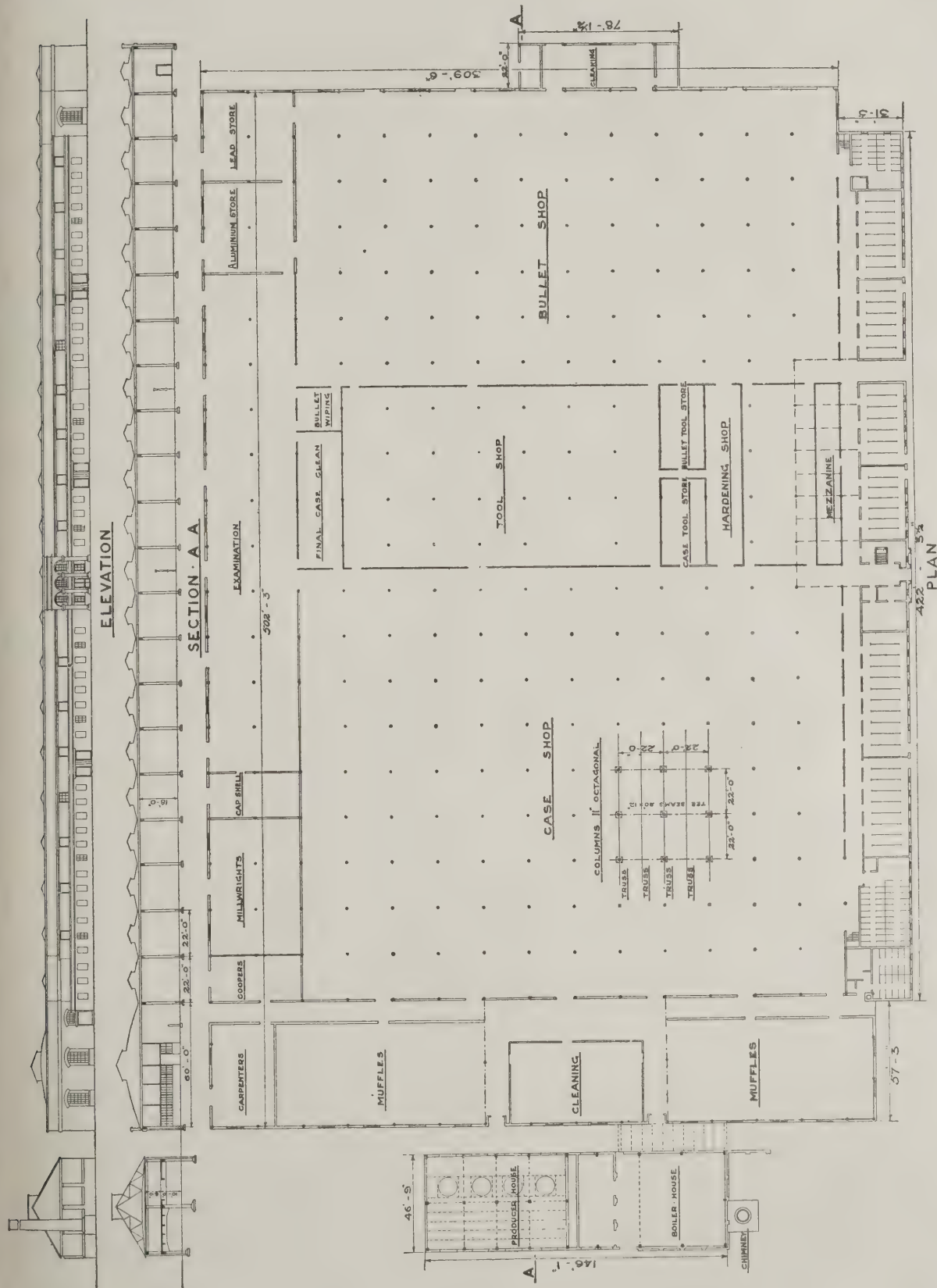
The sub-station is 55 ft. long by 36 ft. wide and is divided into two portions. That portion containing the general stores is 45 ft. by 36 ft., and consists of a single storey, 15 ft. in height from the ground level to the column ties. The remainder of the building is used on the ground floor as stores, and contains in the upper portion a water tank 36 ft. long by 10 ft. wide and 6 ft. 9 in. deep, having a capacity of approximately 15,000 gallons.

Six loading shops have been constructed, in which the reinforced concrete work consists of a 4 in. suspended floor supported by 10 in. by 9 in. wall beams, 9 in. by 9 in. secondary beams, and carried by 9 in. columns on 2 ft. 9 in. square footings, spaced at 12 ft. centres. Each of these shops covers an area 60 ft. by 24 ft.

The general contractors were as follows: Messrs. Wilson Lovatt, Ltd., Wolverhampton (ground work and warehouse); Messrs. W. Moss and Sons, Ltd., Loughborough (case shop, boiler-house, and canteen); Messrs. Parnell and Son, Rugby (loading factory). The sub-contractors were: Messrs. Indented Bar and Concrete Engineering Co., Ltd., London (reinforced concrete construction); Messrs. H. B. and Sons, Ltd., Birmingham (heat patent glazing, and metal casement); Messrs. Walker Bros., Birmingham (electric lighting); Messrs. Ruberoid Co., Ltd., London (roofing); Messrs. Hollis & Hull (wood block flooring); A. L. Gibb (Kinnear shutters).



SMALL ARMS AMMUNITION FACTORY, BLACKHEATH, BIRMINGHAM: PRINCIPAL ELEVATION.
BUCKLAND, HAYWOOD AND FARMER, F.F.R.I.B.A., ARCHITECTS.



GENERAL PLAN OF SMALL ARMS AMMUNITION FACTORY, BLACKHEATH, BIRMINGHAM. BUCKLAND, HAYWOOD, AND FARMER, FF.R.I.B.A., ARCHITECTS.

The Industrial Village of Dormanstown, Redcar, Yorks

THE first 300 houses of this village were built during the war by Messrs. Dorman, Long and Co., of Middlesbrough, to house the employees at their new works near Redcar, in Yorkshire. The village stands on a site open in all directions, permanently separated from the works by a wide strip of common land. As will be seen from the plan, the principal feature of the lay-out is a wide central avenue leading from the market-place in the north to a large semi-circular village green in the centre, on either side of which is the more or less symmetrically composed village, with subsidiary tree-lined avenues, forming an enclosing ring, the resultant effect being one of completeness and unity. A future main road from Redcar to Middlesbrough outside the village will form the northern boundary, and the entrance from this highway to Dormanstown is through the market square.

The elevations are almost severely plain, depending, as they do, for interest on their grouping, the careful disposition and proportion of the windows and the studied details of the doors. These cottages, with their neatly sashed windows and delicately moulded doors, have been designed in sympathy with the prevailing architectural note to be found in the older buildings at Redcar and the small county towns and villages of the Tees valley and neighbourhood.

The elements of these modest and charming Georgian buildings, so characteristic of many of the Yorkshire villages, lend themselves admirably to a system of standardisation inseparable from any modern housing scheme which is to be both effective and economical. One of the most interesting points in the design of the houses at Dormanstown is the consistent variation in size between the ground floor and first-floor windows,

resulting in long horizontal lines, with their suggestiveness of stability and restfulness.

The contractors for the brick houses (illustrated in this Journal some time ago) were Messrs. Walter Jones and Sons, Victoria Street, Westminster, and Messrs. Costain Brothers, Blundellsands, Liverpool.

Desiring to extend the village, Messrs. Dorman, Long and Co. decided to adopt a construction, quite unique in domestic buildings, having a framework of steel, with hy-rib as the concrete reinforcement for the outside walls (inner walls being of slabs) for the first floors, and for the ceilings and roofs. The popular theory that houses built on any such standardised system must be architecturally monotonous and unattractive is hereby completely exploded. Messrs. Adshead and Ramsey demonstrate conclusively that quite as much charm and variety may be obtained by standardised methods as by any ordinary mode of building.

Structurally, the first point of interest is the steel framework, which is simple yet substantial, and absolutely self-contained. This framework has been patented by Messrs. Dorman, Long and Co., Ltd., and is supplied by their own constructional department, being treated against corrosion in a special manner, both before and after erection. To this steel structure is attached the hy-rib reinforcement, and this operation can be accomplished in about three or four days.

In the case of the walls, fixing is effected by means of galvanised wire which is passed through holes 21 in. apart already drilled in the angle uprights and round the rib of the reinforcement. In this manner an excellent fixing and one giving great rigidity is obtained.

The material is fixed horizontally with the rib inwards, and 3-16 in. diameter

rods are also used, being wired at right angles to the hy-rib at 30 in. centres to provide for temperature stresses.

In all cases sheets are lapped and pressed together and are perfectly locked by punching with a handpunch every 24 in. and at the ends. The hy-rib is then concreted to a thickness of 2 in. (that is, 1½ in. on the inside, rib side, and ½ in. on the mesh side), with one to four mixture of cement and sand. This one to four mixture comprising 2½ parts sand, 1½ part fine crushed slag and one part cement, is proving highly satisfactory, and can be recommended in cases where a good grade of slag, free from sulphur and lime, is readily accessible. This wall is permanent and durable, vermin proof and fire resisting. Hy-rib being a self-centring material, close boarded shuttering is eliminated, and it is only necessary to have temporary supports at about 2 ft. 6 in. centres, which may be removed after the inside coat has been applied.

For the floors, the reinforcing sheets with the lath surface downwards, are fixed to the joists by means of plate clip at 18 in. centres. The concrete is then applied to a thickness of 2½ in., and after removing the temporary brace a ½ in. render coat is applied to the underside.

The whole operation is simplicity itself and practically speaking constructional timber is eliminated, no close boarded shuttering being necessary. Only a few braces are used, and these are removed as soon as the concrete has set.

Two of the illustrations given show the cottages in course of construction—first with the steel framing exposed and reinforcement partly applied, then with the reinforcement completed and the roof in position. The finished cottages, which have all the grace and charm of eighteenth-century work, give no indication of the method of construction adopted



HOUSES AT DORMANSTOWN, REDCAR, YORKS.

ADSHEAD AND RAMSEY, WITH PATRICK ABERCROMBIE, ASSOCIATED ARCHITECTS.



LAYOUT PLAN OF DORMANTOWN INDUSTRIAL VILLAGE, REDCAR, YORKS. ADSEAD AND RAMSEY, WITH PATRICK ABERCROMBIE, ASSOCIATED ARCHITECTS.



HOUSES IN COURSE OF ERECTION AT DORMANSTOWN, REDCAR, YORKS: VIEWS SHOWING STEEL FRAMING AND REINFORCEMENT IN POSITION. ADSHEAD AND RAMSEY, WITH PATRICK ABERCROMBIE, ASSOCIATED ARCHITECTS.

Rapid and Economical Methods of House Building

I.—Pisé de Terre

By CLOUGH WILLIAMS-ELLIS

URING the past few months a great deal has appeared in various newspapers about pisé de terre. Much information has been given, but not all of it is true. The public has, for instance, been informed that pisé de terre is the same as cob, that it is a method of building pulverised-breeze, and that it is, at the same time, "monolithic," and built in blocks cemented together. All these things are interesting, but not true. The veracious history of pisé de terre, as far as I know it.

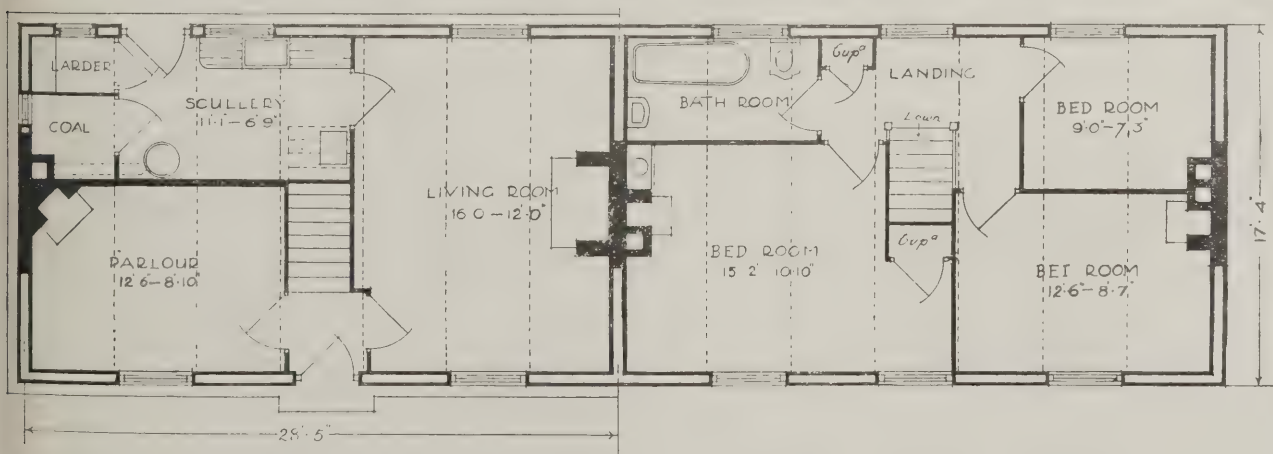
At first hear of pisé de terre in Pliny's "Natural History," where he remarks that the Phoenicians, three hundred years before, had watch-towers in Spain of earth

rammed between shutters, and that these towers still stood intact. It has been widely used in the district round Lyons, where houses three stories high, and even churches, are built of pisé. Recently, it has been employed in India, in New South Wales, and in Rhodesia, and in 1915 experiments in pisé were made in this country by Mr. Strachey at Newlands Corner, Merrow, near Guildford. This year I have built a pisé small-holder's house and steading for Mr. Strachey, and it is to the interest aroused by this house and the publication of my book that the curious paragraphs above referred to have been mainly due.

Pisé is merely earth to which nothing

whatever is added. The earth is dug and thrown between wooden boards and rammed till it is perfectly hard and compact—until, in fact, what is practically an artificial sandstone has been created. The earth is thrown into these shutters in layers of 5 in. or 6 in., and then rammed (by men standing inside the casing) until it is thoroughly solid, before another layer is added. When the mould is full of rammed earth, and the rammer no longer makes an impression, the casing is taken apart and re-erected on the top of the wall just completed.

As to the soil, if it is too sandy it will fret away, while a pure clay soil will crack in drying, and both these exceptional



HALF GROUND FLOOR PLAN

HALF FIRST FLOOR PLAN

HOUSES AT DORMANSTOWN, REDCAR, YORKS.

ADSHEAD AND RAMSEY, WITH PATRICK ABERCROMBIE, ASSOCIATED ARCHITECTS

extremes should, therefore, be avoided. Any other soil, however, is more or less suitable, and even clay and sand may be used if they are mixed together, the peculiarities of the one counteracting those of the other.

The plant for pisé building consists of two pairs of casings or shutters, with stops that may be inserted in such a way that gaps in the walling can be left for doors and windows; a "corner-piece," an "end-piece," and a set of two or three wooden rammers. It is most important that the shuttering should be perfectly rigid and true, as upon its rigidity depends its ability to withstand proper ramming, and consequently the straightness and strength of the walling. The shuttering described in the old books upon pisé was extremely primitive.

"For the construction of the mould take several planks, each 10 ft. long, of light wood in order that the mould may be easy to handle. Of these planks, something over 1 in. thick after planing, fastened together with four strong ledges on each side, the mould must be made 2 ft. 9 in. in height, and two handles should be fixed to each side.

"The instrument with which the earth is rammed into the mould is a tool of the greatest consequence. It is called a pisor or rammer; and though it may appear very easy to make it, more difficulty will be found in the execution than is at first apprehended. It should be made of hard wood, either ash, oak, beech, walnut, etc., or, what is preferable, the roots of any of them."

Pisé building lay off the great main stream of constructional activity; and the enterprise and ingenuity lavished on the perfecting of other building gear and materials passed pisé by, leaving it undisturbed in its quiet backwater, a primitive system still with its primitive tackle.

I myself, however, designed a new plant, which is a considerable advance upon the one described above. It is with such a set of shuttering which I called "Mark V." that the walls of the Newlands Corner Cottage were built, but in the light of the experience gained in putting up this building I have designed "Mark VIII.," which will, I think, prove as much superior to "Mark V." as "Mark V." did to the "aboriginal" shuttering. "Mark VI." and "Mark VII." were abortive designs that got little further than the drawing board.

Next to the use of rigid casing, the success of the work depends upon the freeing of the soil from the larger stones and upon its thorough ramming, but provided it be conscientiously carried out the work is extremely easy and almost all of it—even the adjustment of the shuttering—can be carried out by unskilled labour. The pisé walling for the house at Newlands Corner was put up, under my supervision, in twenty-six days by two unskilled men, men who had had no previous experience of pisé work or, indeed, of any other building. The cost of the pisé house-walls came to under £20, and this sum was, of course, merely the wages bill for the two men, the material used for the walling being dug on the spot. The estimate for the same run of walling in brickwork was over £200. At Newlands Corner I used a brick footing and a slate damp-course, but this was an unnecessary extravagance. In later buildings the pisé is imposed direct on the concrete, save for the intervention of a bitumen-sheet damp-course.



RAMMING PISÉ WALLS.

From "Cottage Building in Cob, Pisé, Chalk, and Clay," by Clough Williams-Ellis.

The use of a pliable damp-course in place of slates does away with the brick-course that was necessary above the latter to protect it from fracture by ramming. When the walls had been up for less than two months they were dry enough for the house to be occupied with perfect impunity. It is noteworthy that the walls of the first rough shed put up by Mr. Strachey in 1915 are now so hard that it is difficult to make any impression on them with a knife or hammer.

It is stated in the old books that it is well to protect pisé by good eaves, and I therefore obediently took this precaution in designing the small-holder's house. Mr. Strachey, however, in building his shed left the gable end entirely unprotected, where it was further exposed to the drip of a tree. The wall has not suffered in the least, and no damp whatever has penetrated.

When they are up the walls can be plain colour-washed, cement-rendered, plastered rough-cast, or sprayed with hot tar, and subsequently colour-washed on the top. I think that with the improved shuttering and the smooth surface that results, it will be possible to paper the interior walls directly without the interposition of plaster.

It is, perhaps, unnecessary to insist upon the non-conducting properties of earth to a nation which banks up its potatoes in winter. Pisé, as is to be expected, compares extremely favourably in this respect with all the materials used for walling, quite apart from the extra thickness usually implied by its use.

Everyone, except a certain section of the Press and its docile public, is alive to the imperfection of wood houses in regard to heat and cold, even if suitable wood for the construction were readily available, which it is most emphatically *not*. Aware of our own timber shortage, I was still considerably surprised by receiving a number of letters from Canada and Scandinavia stating that, owing to the lumber shortage, the freight difficulties, and the various drawbacks attaching to log or

frame houses, the possibilities of building were receiving wide attention. "Spectator" articles on the subject, for instance, been quoted at length in Swedish newspapers.

The "wooden house" Press has told us to turn our eyes to these very countries for from thence should come our salvation.

When one finds that they are themselves turning to pisé as an alternative to the use of their gravely reduced timber stocks, it is tempting to rebuke the optimists not much for barking up the wrong tree, but for attempting to climb one that is there.

Certain paragraphs in the Press appear to have given the impression in some quarters that there was a sort of secret patent about pisé. There is, of course, nothing of the sort; it is, indeed, the simplest of all methods of building, at least thirty centuries old.

All I have so far contributed personally are certain minor improvements in the method and procedure that I hope may very soon be eclipsed by the ingenuity and enterprise of others.

Meanwhile, however, a few extracts from the specification of my Newlands Corner house may prove of service to future pioneers.

Specification.—The following is an abridged extract from the specification so far as it affects the pisé builder:

(1) Excavate to a depth of 9 in. over the site, dumping the turf and surface humus where directed.

This soil is not to be used for building.

(2) Lay a 6-in. bed of cement and concrete 3 ft. wide under outer wall. Centrally on this lay two courses of brickwork in cement to a width of 18 in. build up to the same extent in concrete. Lay on this an approved damp-proof course; if of slates, having a further course of brickwork or concrete above it to prevent fracture when ramming.

(3) Erect the walls according to the plan on the bases thus formed, carrying them up plumb and true and properly bolted.

ing round the building course by using the special-angle pieces at 1ers to keep the work continuous nogeneous.

l stones and flints above a walnut be removed by riddling and l for concrete.

icks, leaves, roots, and other vege- after to be eliminated.

he soil immediately on the site to without admixture of any sort and own direct into the shutterings.

ater to be added without the express ion of the architect.

he boxes are to be filled in thin f not more than 4 in. at a time, and rmed until solid. The workmen to use their rammers in unison.

ammed earth at box ends to be down to a 45-deg. slope so as to 1 with new span of pisé adjoining

e door and window openings occur, icial "stops" to be adjusted and eured so as to withstand hard ram- Two 4-in. by 2-in. by 9-in. plugs to in to each window jamb for the g of the frames and three to each nb.

al care to be taken in the thorough g at the corners and along the box

(8) Insert below floor level where directed twenty-four 3-in. field drainage pipes to act as ventilators through the thickness of the wall. Insert wire mesh stops to exclude vermin.

(9) Set all frames square and plumb, and where in outer walls, flush with finished exterior plaster-face, the joint being covered by a 2-in. by $\frac{3}{4}$ -in. fillet.

Where lintels occur, they are to be tailed in at least 9 in. on each side the opening.

Provide plain picture rail round all rooms at window-head level, providing plugs for fixing where necessary.

Secure to floor round all boarded rooms a 2-in. by $1\frac{1}{2}$ -in. angle fillet as skirting.

(10) The smooth surface of the pisé walling to be hammer-chipped to give a good key to the plaster.

Before rendering or plastering walls, any loose earth or dust to be removed with a stiff brush and the wall surface evenly wetted.

The rendering to be carried evenly round the walls—the minor square angles being roughly chipped down first so as to obviate sharp corners. The main corners of the house are ready-rounded off to a 9-in. radius by the special corner mould.

(11) Bond brick and slab work to pisé walls by driving iron spikes into the latter every few courses at joint level and bedding in.

(12) Colour-wash walls with tallow lime-whiting tinted with ochre. Provide 2-ft. skirting of pitch, applied hot, to form base-course round exterior of building.

N.B.—The exterior of the walls of the Newlands Corner house are being finished in several different ways, with a view to determining the most durable and economical form of epidermis.

A trial pisé building adjoining has stood for four years without any external protection whatever. It has suffered no damage and grows continually harder. For the sake of appearances, however, and for the better preservation of the wall from chance injury whilst still "green," a coating of some sort may be deemed necessary.

In conclusion, I should like to quote a letter written by a Prophet of Pisé to the "Ecclesiologist" in 1848.

It was discovered by Mr. Goodhart-Rendel and reproduced in the "Spectator."

Apparently it was a voice crying in the wilderness, for I have so far failed to discover a single authentic example of pre-armistice pisé-building in all the three kingdoms, saving at Newlands Corner.

Pisé and Cob Building.

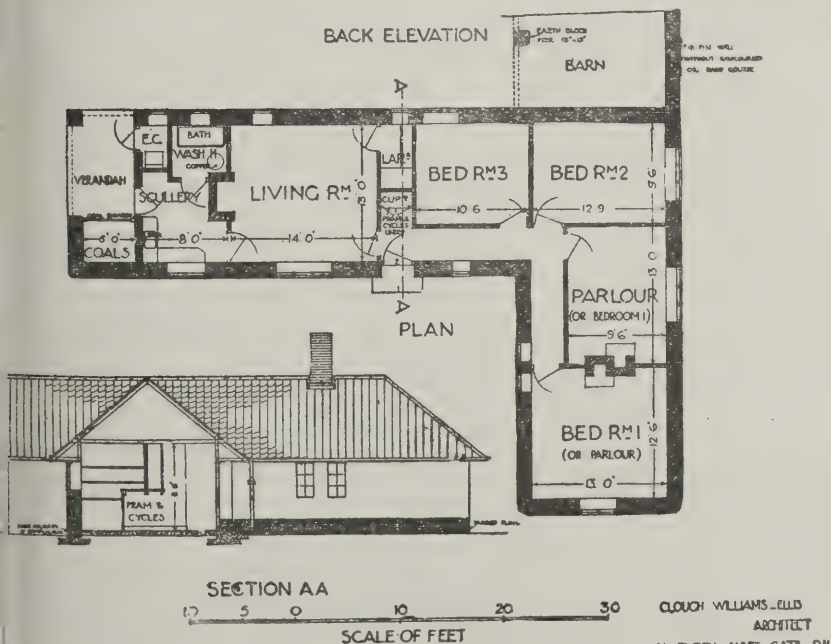
NO. 1.—*To the Editor of the "Ecclesiologist."*

Dear Sir,—In the paragraph prefixed to the article on pisé building, you say you would be glad of information as to whether the pisé building is not common in Devonshire and the West of England, and known by the name of cob-building; and I am happy to tell you that it is utterly different both in substance and manner of construction, and as far superior to it as solid masonry is to rubble walls. I have travelled a good deal in Devonshire and Cornwall, but am not aware that there is anything of the kind except at Enys and Penrose, whose proprietors both had their information from me. Of cob buildings there is abundance in both counties. The substance of cob is loam or clay mixed with straw; it is put on in a moist state by means of shovels, so that a course can hardly be raised higher than one foot, or one and a half feet, at a time, without risk of bulging; and then must be left some time to become consolidated before a second course can be imposed upon it; and when the whole wall is built up it must be pared down to make the surfaces true and even, whereas pisé gravel is rammed in frames, is perfectly dry, and comes forth from the frame a hard and solid and dry mass, and the wall may be carried to its full height without any interruption or delay, except what arises from moving the frames; the surfaces are quite even and perpendicular, and nothing remains to be done but to fill up the holes, where the bolts passed, which is done by ramming in fine pisé gravel on both sides at the same time, with cylindrical pieces of wood of the size of bolts.

The cob walls being put up wet no bond timber can be inserted for door posts, window-frames, or floor joists, but in the pisé walls these may be put in as the work rises, wherever they are wanted. One could pull down a cob wall with the hand; but it requires iron to pick down the pisé gravel, unless it is previously wetted; vermin can make their way through cob, but no animal can penetrate the pisé; the one kind of work is tedious, from the necessity of allowing the different courses to dry, and is often unsatisfactory from the fissures that occur from the



(By courtesy of "Country Life.")



PISÉ COTTAGE AT NEWLANDS CORNER, SURREY.

CLOUGH WILLIAMS-ELLIS, ARCHITECT.

inequally of the substance that is used, according as it is worked up more or less stiff; the other suffers no interruption; and if there be any fear of fissure, it can easily be guarded against by laying strips of deal three inches wide, and one-half or three-quarter inches thick; the one is feeble and perishable in comparison, the other is said by Pliny to be eternal. The only thing I can compare with pisé is the

old grouting which was formed by filling frames, such as the pisé frames, with flints or other stones, and then pouring in upon them hot mortar, so liquid that it will make its way into the interstices and form a compact mass.—I am, etc.,

THE COMPILER OF THE ARTICLE ON
PISE BUILDING.

[We perceive that we did much injustice to the pisé building advocated by a corre-

spondent in our last number by him that it might be the same as the cob building of the West of England.—“Ecclesiologist.”]

In his spirited refutation of those will insist on confounding pisé with the anonymous champion of “The Earth School” has my hearty sympathy.

2.—Wood: Some Practical Considerations

By OSWALD P. MILNE, F.R.I.B.A.

IF you wait long enough the wheel will come full circle. This is a saying the truth of which is being forced upon us. Five years ago who would have been bold enough to prophesy that we should ever again build houses of wood in large numbers in this country? They were the relic of an earlier day. A few might remain to show us how our forefathers built, but this type of house seemed doomed to gradual extinction, to be replaced by something more lasting—brick, stone, concrete, and steel. Now, under the pressure and difficulties brought about by the war, the circle is complete and wooden houses are again springing up.

What changes the war has brought! Before it came the material that went to the construction of the house was a matter for the architect and builder rather than a question of interest to the general public. Now, under the stress of shortage, every man and every newspaper discusses eagerly the rival merits of houses in brick, concrete, wood and pisé. The wildest statements as to materials and their relative costs are made. Some try to convince us that wooden walls are the solution of all our troubles. This awakened public interest has, at any rate, the effect of stimulating ingenuity and has brought many minds to bear upon the problem. Old methods

are being inquired into and revived. We are ready to shake off ancient prejudices and consider every suggestion that appears helpful.

As far as wood is concerned, it is a little difficult to know where we stand. A year or two ago—during the war—those architects who were not busy fighting the Germans were trying to devise methods of building houses without timber. The price of timber seemed to make its use prohibitive, but we are learning that the cheap house is an idle dream. In still earlier days before the war we were told that in our reckless use of timber we were heading straight towards a world shortage; and now, although the Russian forests are closed to us, there are not wanting authorities to declare that timber is ready and waiting to build all the houses needed.

In considering the merits of wood in building, a material that is almost as old as building itself, we should do well to look at the history of its development and the varied form of its construction in different ages and climates. Man's use of material is generally governed by very practical considerations. He seizes upon new inventions and new resources and turns them to account for his well-being and comfort. The evolution of an art may be fluctuating and uneven, but in the long

run materials that are less good for particular purpose are discarded for that prove superior.

Wood has from the earliest times been used by man in the construction of dwelling. Where timber abounded it was used in every part of the structure—walls, floors, and roof. In America, Canada, from the time of the first settlers, who built their log huts, wood always played a large part in the building of houses. The art of building wooden houses reached a very high level in early days. Many beautiful examples are to be found, showing in their design and fine construction how comfortable a dwelling-house of wood can be. In the towns, however, as population increases, the tendency is to replace timber by more solid construction.

In the older European countries change, though less rapid, has been the same lines. Let us see what has occurred in England. Here in the Middle Ages the humbler dwellings were less commonly constructed of wood. Brick and masonry were reserved for the shrines of the mighty barons and for churches and monasteries of the religious orders. The lesser houses of the mediaeval times have almost completely disappeared, but of timber-framed build-



GIBBS HOUSE, CHARLESTON, SOUTH CAROLINA (BUILT 1752).

(An admirable example of American Colonial Architecture and of Wood Construction.)

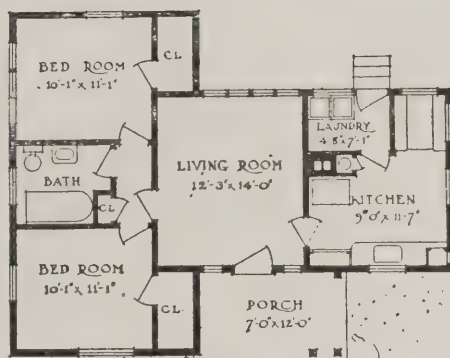


THE WOODEN COTTAGE: A MODERN AMERICAN EXAMPLE.

For times we possess many examples in almost every town and

This was a generous age of wood construction, defying the inroads of time, there is little in common here with the building proposed to-day, of soft wood of small scantlings. As the forests were cleared, and soft foreign woods had to be imported to take the place of native timber, the use of wood for outside work rapidly fell out of favour; brick-building increased, and in Queen Anne and Georgian times the house of brick had become firmly established itself.

Thus, historically, we see that in new and old countries the development and



use of timber has been upon the same lines. The general employment of wood gradually gives way to the use of more permanent material, as the resources of civilisation increase, until in large towns, at any rate, it is eventually eliminated in favour of brick, stone, and concrete. We must, therefore, be sure of our ground before we revive a form of building once common that has proved by time to be less suitable than some others, unless we can bring new methods and new science to bear upon its use.

However this may be, we must recognise that the war and consequent shortage of houses has brought into play an entirely



OLD TIMBER COTTAGES AT WOODCOTE, EPSOM.

new set of conditions. We are once again in the position of the pioneer in a new country who has to get a roof over his head with the least possible delay. Under these circumstances, one of the main things to consider is speed, and it is there that wood is going to help us, although we have still to consider cost and other practical qualities.

The advantages and disadvantages of wood as a material for outside walls may be quickly set out. On the one side we know by experience that wooden houses can be warm, dry, and comfortable, and that the material is capable of pleasing architectural expression. On the other the list is somewhat longer:

(1) Expense in upkeep greater than for brick or stone, and increasing with age.

(2) Risk of fire, which makes wood construction altogether less suitable for close town sites, and raises the price of fire insurance.

(3) Risk of dry rot which, if once it gains a footing, may destroy the whole structure.

(4) Liability to attacks from, and affording a harbourage for, rats and vermin.

Some of these disadvantages can be minimised. The life of soft wood can be prolonged, and it can be protected from decay by creosote, while chemical treatment will lessen the risk of fire and dry rot.

On the question of cost, as compared with other forms of building, it is difficult to speak definitely. It is rather generally asserted that by building in wood money will be saved, but few concrete examples can be advanced to prove this. At the present price of timber the saving in any case could be little. One must bear in mind that the rough carcass of a house represents only about a third of its whole cost, including foundations and chimneys. If wood is used chimneys and dwarf walls will still be necessary, and will swallow up a considerable part of the third on which the saving could be effected. Not much margin is left; and with wood at its present price it will be seen that the walls, even of wood, will be a considerable item on the bill.

It is in speed of construction and erection that we have to expect most benefits from the use of wood. To increase this to the utmost mass production and some measure of standardisation would appear

to be the right plan to adopt, leaving as little work as possible to be done on the actual site. By this means the house can be sent out from the mills in sections, every part marked and ready to fit to its neighbour, and much time in setting out

and waste in cutting can be avoided. In this case, as a great deal of repetition takes place, it is increasingly important that the houses should be good examples of construction and design. The simple wooden erection that does duty for a parish room, and the corrugated-iron church, are but temporary expedients; the wooden house built to-day should have no relative to these. Unless our wooden houses are comfortable and well-planned dwellings, capable of lasting for many years, we shall only be producing trouble in the future more deadly than that of the present-day slums, which are the result of inept building in the past.

Let the manufacturer call to his architect, and let the architect keep in mind the sobering thought that his design may confront him from Land's End to John o' Groat's. Let him go for his inspiration to the best periods of English domestic architecture. Where could he find design more suitable to wood construction and to standardisation than in the eminently native qualities of the Georgian house?

A street of simple Georgian houses would be tolerable, nay, even pleasing, where the repetition of Roslyn chapels would be nauseating, however much the elaboration and quaintness may please in a single example.



COUNTRY COTTAGES WITH UPPER PART WEATHER-BOARDED.
THE LATE ALWYN BALL, ARCHITECT.



PAIR OF COTTAGES NEAR WOKING, SURREY. O. P. MILNE, F.R.I.B.A., ARCHITECT.

Upper part timber framing covered with creosoted weather-boarding.

3.—Concrete and Concrete Blocks

By A HOUSING EXPERT.

On the ninetieth anniversary of the discovery by Joseph Aspdin, of Leeds, of adding clay to finely-ground lime and calcining and crushing the mixture, since known as Portland cement, could be produced, that the peak of the war occurred. During ninety years, although Portland cement had thoroughly established itself as the most indispensable building material, its full measure of its use had by no means been recognised. It remained for the post-war shortage of bricks to cause men to turn their attention towards the discovery of a substitute material, and to lay aside what prejudices with which previously they have been obsessed against the extensive use of concrete, which now takes its place amongst the other recognised materials for cottage building. And although

the work of bricks, it nevertheless remains the work of an experienced person. The most common defect of concrete cottages is that of condensation. The high surface tension in concrete renders a solid wall, owing to its non-porous nature, damp on the inside, and a hollow wall construction may suffer in the same way owing to the moisture which collects within the cavity. The usual methods employed to overcome this defect are, with a solid wall to employ a vertical damp-proof course, and, with a hollow wall, to construct the inner portion of a porous mixture.

The systems fall, roughly, under two headings: those which are pre-cast and those which are site-moulded, and these again may be both with or without reinforcement; furthermore, they may include the floor, the roof, and even the

concentrates on a method containing a vertical damp course. Yet a fourth argues that the need of the moment is mass production. The aim must be for factory-made large units, and the erector must have at his disposal all the latest mechanical contrivances; only then will the skilled trades be eliminated which constitute such a large item of expense.

Again, a monolithic structure may appear to some to be the best use to which the material can be put. There is doubtless something in favour of each of these many points of view; it will, consequently, be left to the reader to draw his own conclusions or make his selection.

As has already been mentioned, it is necessary for the inner part of the wall to possess properties of absorption; properties which it will be equally essential that



CONCRETE BLOCK COTTAGES IN HARDWICK VILLAGE.

DUNN, WATSON, AND CURTIS GREEN, FF.R.I.B.A., ARCHITECTS.

may be a measure which is to a large extent the outcome of a necessity, there is no doubt that even when the necessity no longer exists the material will be taken more widely into use.

There are many advantages claimed for concrete as a cottage-building material, among which may be mentioned cheapness, which is especially applicable where suitable aggregate may be obtained locally—strength, economy in transport, speed in construction, and ease of manufacture. The material, however, is apt to constitute a source of danger, for the strength and weather-resisting qualities of concrete depend entirely on other things being equal—upon the correct mixing of the ingredients, particularly as regards the amount of water; an excess or an insufficiency causing a weakness in the material developing disproportionately to the amount of the error. Thus, although the mere mechanical process may be simple, when compared to the manufac-

ture of bricks, it nevertheless remains the work of an experienced person. The most common defect of concrete cottages is that of condensation. The high surface tension in concrete renders a solid wall, owing to its non-porous nature, damp on the inside, and a hollow wall construction may suffer in the same way owing to the moisture which collects within the cavity. The usual methods employed to overcome this defect are, with a solid wall to employ a vertical damp-proof course, and, with a hollow wall, to construct the inner portion of a porous mixture. The systems fall, roughly, under two headings: those which are pre-cast and those which are site-moulded, and these again may be both with or without reinforcement; furthermore, they may include the floor, the roof, and even the

the outer portion shall not possess; nevertheless, if the two portions can be combined in one unit the result is a more rigid structure. The difficulty of producing a hollow block, the two portions of which shall be composed of a different mixture, is furthermore increased owing to the fact that the shrinkage during the period of seasoning takes place at a different rate in the two parts. There is, therefore, a danger that the block may crack in the process. This is overcome in one system, which constructs on this principle by means of the insertion of short pieces of reinforcement between the two portions.

Concrete building has, to a large extent, replaced brick; it is, therefore, not surprising to find some systems which maintain the brick unit while making it of the new material. These bricks are made in a machine in which there is an arrangement for the formation of a frog. For the inside wall and for partitions, however, the frog

is not considered necessary, and so that particular portion of the machinery is removed. The blocks, after proper seasoning, are then laid in a similar manner to usual brickwork. It is often stated that one of the main advantages of a pre-cast concrete block construction lies in the fact that the block units may be considerably larger than the brick unit, thus affording a saving in mortar and minimising the risk of leakage through the joints; and, furthermore, that a shorter time is required to erect an amount of wall than would be the case with bricks. There exist, therefore, a variety of machines which turn out blocks of various sizes, the most usual being a 36 in. block. Arrangements are made, according to the particular system favoured, for a variety of bonding methods. Thus there may be metal ties, or the blocks may be tongued and grooved, or they may be T-shaped on plan, the latter arrangement obviating the necessity of a metal tie between the two parts of the wall. In common with most

cated arrangement in which the asbestos sheets are secured to a light steel frame work, the cavity is then filled in with concrete, which completely surrounds the metal. The first floor is composed of T-irons fixed to the uprights, between which are concrete slabs. Instead of steel framing, timber has been used, the asbestos sheets being fixed thereto in the same manner and the cavity filled with concrete. The outer face of the asbestos is treated with some water-proofing material. At least one system is in use which constructs the outer portion of a hollow wall in brickwork, and the inner portion of concrete, the cavity formed being filled in with cement grout, forming another kind of vertical damp-course over the entire wall surface. The combination of concrete and brickwork forms the basis of another arrangement, which is being used with success. In this case the wall is constructed of brickwork up to the damp-course level. Above this brick piers are

also with the scarcity of labour. production is a phrase often heard in connection with the motor trade, but it constitutes an undoubted novelty in the building industry. The parts are made at various conveniently situated central depôts. They are of unusually large size, the chimneys indeed, made in sections from a special breeze concrete, weigh as much as a ton; with each building therefore a specially designed crane is employed to lift the parts into place. The wall slabs are cast the full height of a storey in one piece. The roof, too, is constructed of concrete in slabs which stretch from ridge to eaves; there are consequently no horizontal joints in the roof. The vertical joints are covered with a concrete capping, due allowance being made for expansion. An apparent advantage of such a system at the present time, when expedition is of so much importance, is in the fact that since much of the work takes place in roofed factories prior



CONCRETE BLOCK COTTAGES AT SEDBURY. LEONARD MARTIN, F.R.I.B.A., ARCHITECT.

other contentious opinions, arguments may be advanced for or against such an arrangement with equal plausibility. In order to minimise the labour of laying, at least one system exists which dispenses with trowel and mortar, and in its stead the blocks are dipped bottom and end in slurry—and then placed in position on the wall.

So far, only the most simple and straightforward systems have been considered. Many are, however, far more complex, and consist of a mixture between the pre-cast and the site-moulded elements. The entire site-moulded construction has not many advocates, owing to the difficulty of shuttering. There are, however, one or two designs on this principle; for the most part the wall so constructed is a solid one, containing a vertical damp course throughout. In some cases the distance pieces, which hold the shuttering apart during erection, are left in position, forming a permanent reinforcement. A slight variation of this is found in the method whereby a solid concrete wall is constructed between asbestos sheets, which also form the shuttering during the filling of the wall. This method again forms the basis of a more compli-

erected at the angles and at about 12 ft. intervals. They are constructed with a sheet of vertical damp-course in their centres, which is allowed to project. The shuttering is then formed of 9-in. scaffold boards on edge between the piers to which they are clamped.

The sheet of damp-proof course is hung between with an over-lap at the joints of the sheets, and the wall built up in the shuttering. In order that the two parts of the wall may be bonded together, special wall ties are employed. The door and window jambs are also constructed in brickwork, although there is no reason why these and the brick piers should not be built in pre-cast concrete blocks. Expanded metal lathing finds its place in certain systems, being used to cover a framework of steel, itself cased in fine concrete, the walls thus formed being lined with clinker or plaster slabs. The same material is used to reinforce a thin concrete floor suspended between steel channels.

More ambitious systems of concrete construction exist, which make an endeavour to cope not only with the difficulty arising out of the limited supply of material, but

erection, it can be proceeded with irrespective of the vagaries of the winter weather.

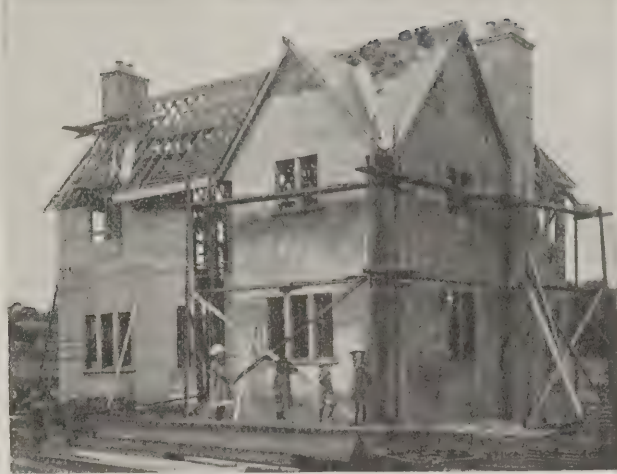
Thus is concluded a cursory examination of some of the prevalent systems of concrete cottage construction. In endeavouring to satisfy the needs of the moment, pressing as they so undoubtedly are, our great heritage of cottage construction—that precious heirloom, which it is indeed, the duty of all of us to preserve—must never for a moment be lost sight of, and it is the task of all who build to-day to strive to make their contribution worthy to be set beside this priceless residue of past generations. Posterity will read its history in our buildings. Let it be now written.

Some cottages recently completed on the Winget system are illustrated.

The continuous cavity wall, which is a feature of this system, with wall-ties which cannot act as a medium for conveying moisture from the outer to the inner leaf, ensures an absolutely dry house, and, as it is proved, that maintains an equal temperature both in summer and winter. "Winget" block walling is put up in half the time occupied in brick construction, the chief reason for this economy being



10 days after commencement.



15½ days after commencement.

SIR CHARLES RUTHEN'S EXPERIMENTAL COTTAGE AT NEWTON, MUMBLES, NEAR SWANSEA. TYPE A.

16-in. by 9-in. by 9-in. block is
valent to ten bricks, and the labour in
and jointing proportionately re-
duced. Special blocks are made for
eaves, quoins, cornices, etc., all of
which add considerably to speed in build-
ing. Further saving is effected in timber,
nailing, and finishing. One machine
of this system will produce all the slabs

and blocks necessary for a two-storey
house covering an area of 400 sq. ft. in
four to five days.

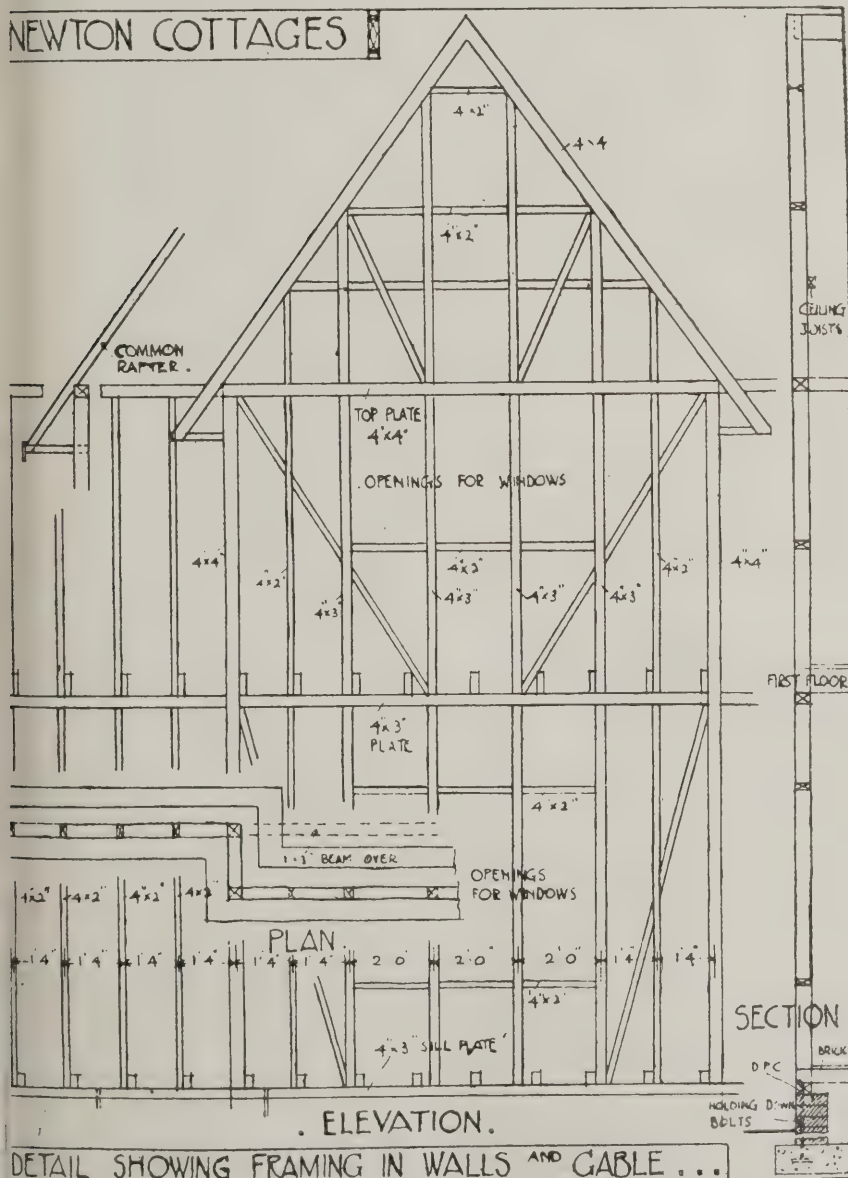
Many large housing schemes have been
carried out on this system of construction,
including those at Chepstow (Dunn,
Watson, and Curtis Green, F.F.R.I.B.A.,
architect), and at Braintree, Essex
(C. H. B. Quennell, F.R.I.B.A., architect).

4.—Wood Framing and Patent Boarding

The object of the very successful experi-
ment, carried out some few months ago at
Newton, Mumbles, near Swansea, by Sir
Charles T. Ruthen, O.B.E., F.R.I.B.A.,
M.S.A., and Mr. C. W. Mercer, M.S.A.,
was to show that artistic, strong, lasting,
weatherproof houses could be erected in a
most workmanlike manner with first-
rate materials in the course of a few
weeks. An exposed site, some two or three
hundred feet above the Bristol Channel,
and fully exposed to the prevailing
westerly gales, was selected for the experi-
ment, and three types of houses were
erected. The first type, illustrations of
which are reproduced, was externally
finished with cement plaster and was
erected and completed in thirty days. The
second type had a single-brick veneer upon
the outside, and the third a single-brick
veneer to the first-floor level and half-
timbered work above. All three types had
wooden framework as the main skeleton.

In all three types of houses the founda-
tions were constructed of brickwork, so as
to bring the sole pieces well above the
ground level; a bitumen damp-proof
course was laid upon the foundations, and
the entire site covered with a layer of
cement concrete. The sole pieces were
then laid, and upon these the skeleton
framework was erected. The main struc-
ture consists of 4-in. by 2-in. pieces erected
to 16-in. centres, and these were properly
braced in the manner shown upon the
details with 4-in. by 2-in. stuff. The
"feet" of all the uprights and sole pieces
were coated with a preservative material;
the floor joints and roof timbers are exactly
as they would be in an ordinary brick
house, and the timbers to form the door
and window openings, and to carry the
floor and roof timbers, were included in the
general skeleton structure, and the final
result was a rigid and strong wooden
skeleton.

Upon the outside of the timber studding
Bishopric Stucco Board, obtainable in
large rolls 48 in. broad, and consisting of
three distinct materials, was applied. The
first material is a fibrous board, upon
which the second material, a thick layer of
asphalt mastic, has been applied, in
which mastic the third material is em-
bedded under great pressure. The third
material consists of wooden dove-tailed



laths. This shield (Bishopric Board) is carefully unrolled vertically against the timber studding of the skeleton structure, breaking joint upon the centre of the upright studding, the fibrous board being next to the studding, and the dove-tailed lathing outside. The shield is then firmly nailed to the studding of the structure, one long wire nail being used to nail each lath at the points bearing upon the studding. Each dove-tailed lath (in its 48-in. length) would therefore be nailed to the studding with four wire nails.

It is necessary that the shield, which is received in large rolls, should be kept dry. This material should be put under cover promptly upon arrival at the site of the works. When applied to the wooden studding of the building, it should be nailed upon the studding as rapidly as possible. When once thoroughly nailed upon the framework skeleton, it is not in any way injured by wet weather. Should the weather be fine during the fixing and completion of the shield material, the shield should be sprinkled with water before the cement stucco is applied. If the shield is nailed to the studding, there will be no possibility of the laths buckling or warping. The joints of the shield should be

broken at least every four feet, thereby avoiding continuous joints and adding greater strength and rigidity to the structure.

For the cement stucco only best quality Portland cement should be used. Sir Charles is of opinion that not nearly sufficient attention is paid to mortars and plasters. The mixture as used in America, he states, is as follows, viz.: One part of hydrated lime is mixed dry with ten parts of cement, both being thoroughly incorporated until of perfectly even and uniform colour; then one part of this mixture to two and a half parts of dry sand, with a sufficient quantity of water added to give a good stiff mortar. Apply the first coat to the shield, under pressure to ensure the filling of the dove-tailed keys upon the external face, trowelling as little as possible. Cross-scratch this coat deeply and thoroughly. This first coat should be five-eighths of an inch thick, and should be kept wet from the second day for seven days before the application of the second coat. For the second coat use the same mixture as before and apply in the same manner, omitting the scratching. Stipple or float this coat at the time of application. For extra good work a third coat is applied

not less than one quarter of an inch thickness, this coat being carried on continuously in one direction without allowing the mortar to dry out at the edge.

The roof of the first type of house covered with best Precelly slates, specially selected, and well-laid. The kitchen tiled with white-glazed tiles to a height about 7 ft., the plumbing, sanitary, and other fittings, joinery, and door and window furniture were of the best quality, and all the windows were steel casement glazed with leaded lights. The other types were erected in exactly the same manner except the roofs, which were covered with Brosely tiles and Westgreen slates respectively.

As regards the question of cost, Sir Charles Ruthen found that the timber framing or studding, the "Bishopric" board fixed upon the outside and plastered with two coats of cement plaster, with the inside lathed and plastered in the usual way, covered with asbestos sheeting, or fibrous wall board, cost less to the extent of several shillings per yard super. than the solid shell would have been constructed of hollow brickwork. There are also a number of minor advantages from the point of view of cost.

Renewed Activity in the Building Trade

In order to give the readers of this Journal some idea of the activity that is now generally prevailing throughout the building trade, the Editors invited a number of leading London contracting firms to set forth particulars of their principal contracts—either recently completed or at present in hand. In response to this invitation the following information has been received. Apart from these, which of course make no pretence at completeness, there are scores of big works in progress in London at the present time, and considerable activity is reported from the Provinces. The anticipated post-war boom in building has undoubtedly arrived.

Messrs. Wm. F. Blay, Ltd.

A granary, for Messrs. Strickland, of Dartford; motor body shops, for J. C. Beadle, of Dartford; motor garage and engineering works, Bromley Road, Catford; new offices and motor works for Messrs. J. and E. Hall, Ltd., of Dartford, J. and P. Coleridge, architects; warehouse for Dartford Wharfage Company, W. and J. Harston, architects; new messrooms, new stores and warehouse, additions to factory, for the British Fibre Cement Company, of Erith, Alfred Roberts, architect; boiler engineering shop for Dartford Dry Dock Company, Alfred Roberts, architect; gun cotton works and additions to factory for E.C. Powder Company, F. M. Kirby, architect; aeroplane shops, bayonet grinding shop, mine stores, machine gun factory, for Messrs. Vickers; factory and offices for the Skefko Ball Bearing Co., Ltd., Luton, Sir A. Brumwell Thomas, F.R.I.B.A., architect; office blocks known as "Victory House," Kingsway, and "Princes House," Kingsway, Trehearne and Norman, architects.

Higgs and Hill, Ltd.

New premises for Messrs. Dickens and Jones, Regent Street, Messrs. Henry Tanner, F.R.I.B.A., architects; new premises for Messrs. Babcock and Wilcox, Farringdon Street, Victor Wilkins, architect; new premises for Avon Tyre Co., Euston Road, N.W., Robert Angel, F.R.I.B.A., architect; new premises for Messrs. Tremlett, Conduit Street, Romaine - Walker and Jenkins, F.R.I.B.A., architects; reconstruction of premises for Messrs. Flaxman, Shaftesbury Avenue, Messrs. Henry Tanner, F.R.I.B.A., architects.

H. and H. F. Higgs, Ltd.

Offices, 28, Mortimer Street, W., A. E. Hughes, F.R.I.B.A., architect; offices

for P. and O. Navigation Company, Leadenhall Street, E.C., Messrs. Colcutt and Hamp, F.R.I.B.A., architects; offices at Barnes for R. McCrum, E. T. Hall, F.R.I.B.A., architect; flats, Balcombe Street, Albert Dawkins, P.A.S.I., architect; art galleries, Nos. 3-4, Albemarle Street, and 43, Old Bond Street, Messrs. Townsend and Quennell, F.R.I.B.A., architects; flats, Crawford Street and Homer Row, W., Albert Dawkins, P.A.S.I., architect; rebuilding Adam and Eve public-house for Messrs. Taylor Walker and Co., Messrs. Wm. Bradford and Sons, architects; seamen's hospital, Euston Square, N.W., Messrs. Colcutt and Hamp, F.R.I.B.A., architects; new private residence, Wacousta, East Finchley, Messrs. Crickmay and Sons, architects; alterations to Sandroyd, Cobham, Leonard Martin, F.R.I.B.A., architect; alterations to house, Chessington, Surrey, Leonard Martin, F.R.I.B.A., architect; additions to Upper Terrace Lodge, Hampstead, N.W., Messrs. Pine Coffin, Imrie and Angell, architects; renovations after fire at Grosvenor Hotel, C. D. Collins, architect; James Alleyn's Girls' School, Dulwich, E. T. Hall, F.R.I.B.A., architect; council schools, Croydon, H. Carter Pegg, F.R.I.B.A., architect; sanatorium, Mill Hill School, Messrs. Colcutt and Hamp, F.R.I.B.A., architects; G.P.O., sub-station, Mount Pleasant, for H.M.O.W., E. Cropper, O.B.E., H.M.O.W., architect; Aldershot Institute, Gun Hill, P. W. Meredith, F.R.I.B.A., architect; Admiralty Transport offices, St. James' Park, for H.M.O.W., E. Cropper, O.B.E., H.M.O.W., architect; offices, 10, Downing Street, S.W., for H.M.O.W., E. Cropper, O.B.E., H.M.O.W., architect; various extensions to Messrs. Charrington's Brewery, Mile End, E., Messrs. Wm. Bradford and Sons, archi-

itects; factory at Bermondsey for Messrs. Hepburn, Gale and Ross, Messrs. C. Gotch and Leighton, F.R.I.B.A., architects; electric supply station and offices, Wandsworth, Captain C. Stanley Pell, F.R.I.B.A., architect; International Stores factory, Southall, Messrs. Wm. and Sons, M.S.A., architects; paper mill, St. Paul's Cray, Kent, Messrs. Muir and Pigott, A.A.R.I.B.A., architects; extensions to factory, Walthamstow, for Messrs. Peter Hooker, and S. T. Nunn, architect; factory, Inge Street, Battersea, for Messrs. Hunter and Hvland, Messrs. Stodart and Arnold, A.A.R.I.B.A., architects.

E. A. Roome and Co.

Business premises, Cranbourne Street, and Great Portland Street, Robert Angel, F.R.I.B.A., architect; factories at Walthamstow and Silvertown, Bruce Dawkins, F.R.I.B.A., architect; business premises, Stratford, Geo. Baines and Sons, architects; business premises, Golden Square, Naylor and Sale, F.R.I.B.A., architects.

Messrs. Rice and Son have in hand new offices for the Metropolitan Water Board, Rosebery Avenue, H. Austen Hill, F.R.I.B.A., architect; and Victoria House, Cockspur Street, Metcalf and Greig, architects, has not long been completed.

Messrs. F. G. Minter have been engaged on heavy constructional work for the Air Ministry during the past few years, but they have also carried out a large amount of general work, including the great new premises for Messrs. S. J. Bros., in New Bridge Street, F. Troup, F.R.I.B.A., architect. They are at the moment engaged upon some factory extensions for the General Electric Co., Ltd., at Hammersmith, John Quilter, architect. Many other contracts have large contracts in hand.



THE GREAT WAR CROSS—ERECTED AT OLD BUCKENHAM, NORFOLK.
SIR REGINALD BLOMFIELD, R.A., F.R.I.B.A., ARCHITECT.

Buildings of the Year and Projected New Works

THE following pages give an illustrated record of some of the more important buildings either completed or projected during the past year. When it is remembered that 1919 was the first year after the war, and hence largely devoted to the re-organisation of the machinery of industry, it will be conceded that the progress of the building trade towards a complete recovery of its old-time vitality has been by no means inconsiderable. There were, of course, large numbers of buildings only part completed when the war broke out, and the majority of these were commandeered by the Government for wartime purposes. Those that have been released are now either finished or well on towards completion, Wallasey Town Hall and the new offices for the Metropolitan Water Board, which we are able to illustrate in this issue, being typical examples.

Many big schemes for new buildings in London and the provinces are either now in hand or in course of preparation; and a number of these are illustrated in the following pages. Several of the more important projects are not sufficiently advanced to be illustrated yet, so we have to reserve the pleasure of dealing with them for some future occasion. On the whole, it may be said that, when all things are considered, 1919 has been an eminently satisfactory year, and if the present prospects for 1920 are realised, the new year should be one of abounding prosperity for the building industry.

One important feature of the past year's building activity has been the erection of war memorials, some thousands of which have been put up in all parts of the country. One of the most notable is the great War Cross which, designed by Sir Reginald Blomfield, R.A., is to be erected in all the British military cemeteries abroad. An illustration of the Cross, as erected at Old Buckenham, Norfolk, is shown on the preceding page. With these few introductory remarks, we may come to a consideration of the buildings of the year.

New Premises for Messrs. Dickins and Jones, Ltd.

These new premises, which constitute one of the largest schemes of rebuilding work proceeding in London at the present time, are being erected on a site between Regent Street and Argyll Place. Much as we may regret the passing of Nash's stucco work, it is a consolation to know it is being displaced by some very fine elevations designed by Messrs. Sir Henry Tanner, C.B., I.S.O., Henry Tanner, F.R.I.B.A., and E. J. Tanner, A.R.I.B.A. Further reference to this important scheme must be deferred to a later issue. In the meantime we give a list of the contractors and sub-contractors engaged upon the work. These are as follows: General contractors, Messrs. Higgs and Hill, Ltd.; steelwork, R. Moreland and Son, Ltd.; plastering, Messrs. Higgs and Hill, Ltd., and Messrs. John Tanner and Son; steel casements, Messrs. the British Luxfer Prism Syndicate, Ltd.; bronze work, Messrs. the Bromsgrove Guild and Messrs. Jones and Willis; lifts, Messrs. Waygood-Otis, Ltd.; door furniture and fittings, Messrs. Carter and Aynesley; shop window, enclosures, and shop fittings, Messrs. F. Sage and Co.; venti-

lation and heating, Messrs. Jeffreys and Co.; electric light, Messrs. Drake and Gorham; sprinklers, Messrs. Spencer and Co., Ltd.; automatic fire alarms, Messrs. the Automatic Fire Escape Co.; vacuum cleaners, Messrs. Sturtevant Engineering Co.; glissolo and parcels conveyors, Messrs. Sauvé and Co.; roller shutters, Arthur L. Gibson; marble, Messrs. Farmer and Brindley; collapsible gates, Messrs. Haywards, Ltd.; carving and sculpture, Messrs. J. A. Stevenson; tanks, Messrs. Mather and Platt.

Messrs. the Sturtevant Engineering Co., Ltd., are installing their turbine suction cleaning plant, with piping extending to all parts of the building, and fitted with about 125 hose connecting points. This plant will be capable of accommodating sixteen operators cleaning at the same time, thus enabling the whole of the building to be covered daily by means of one suction sweeping system. This system is being installed in a large number of drapery establishments in London and provinces, and owing to its special design, it will sweep smooth or carpeted floors, walls, upholstery, hangings, etc., with the utmost rapidity.

Wallasey Town Hall

The provision of a new town-hall for Wallasey had been under consideration for many years, the first steps in the matter having been taken in 1904, when an open competition was held and architects throughout the country invited to submit designs. Out of over 100 designs sent in, Sir William Emerson selected those of Messrs. Briggs, Wolstenholme, and Thornely, F.R.I.B.A., of Liverpool. It was not until some years later, however, that it was ultimately decided to proceed with its erection on the North Mead site. In the meantime the requirements of the Council had changed—the Urban District Council had become a County Borough—and owing to the growth of the district it was found advisable to instruct the architects to prepare new designs to meet the altered conditions. In May, 1914, the contract for the new town-hall was let, in open competition, to Messrs. Moss and Sons, of Loughborough. During the war the building was used as a hospital by the War Department.

The hall has been erected on what is known as the North Mead site, with frontages to the Promenade, Brighton Street, and Queen's Road. The site, containing an area of over two acres, is midway between the Seacombe and Egremont ferries, and forms an elevated plateau some 36 ft. above the Promenade.

The building is set back about 140 ft. from the Promenade, and is approached from the latter by a series of wide steps, with terraces and grass banks. On the Brighton Street frontage, where the principal entrance is placed, a square is formed which is laid out with two large grass plots with spacious footpaths and carriage drives around same. The frontage to Queen's Road has been well set back from the street, giving such ample space all round the building as few town-halls possess. The building has frontages of 156 ft. to Brighton Street and the Promenade and 176 ft. to Queen's Road and the south side.

In providing the borough with a new town-hall the Council has wisely kept in

mind not only the present needs of the district, but has taken into account the probable needs of the future. The building has accordingly been planned with a considerable amount of spare accommodation which will be occupied as the various departments require further space. It has also been arranged that an additional storey can be added on the north, south, and east fronts without in any way detracting from the appearance of the building.

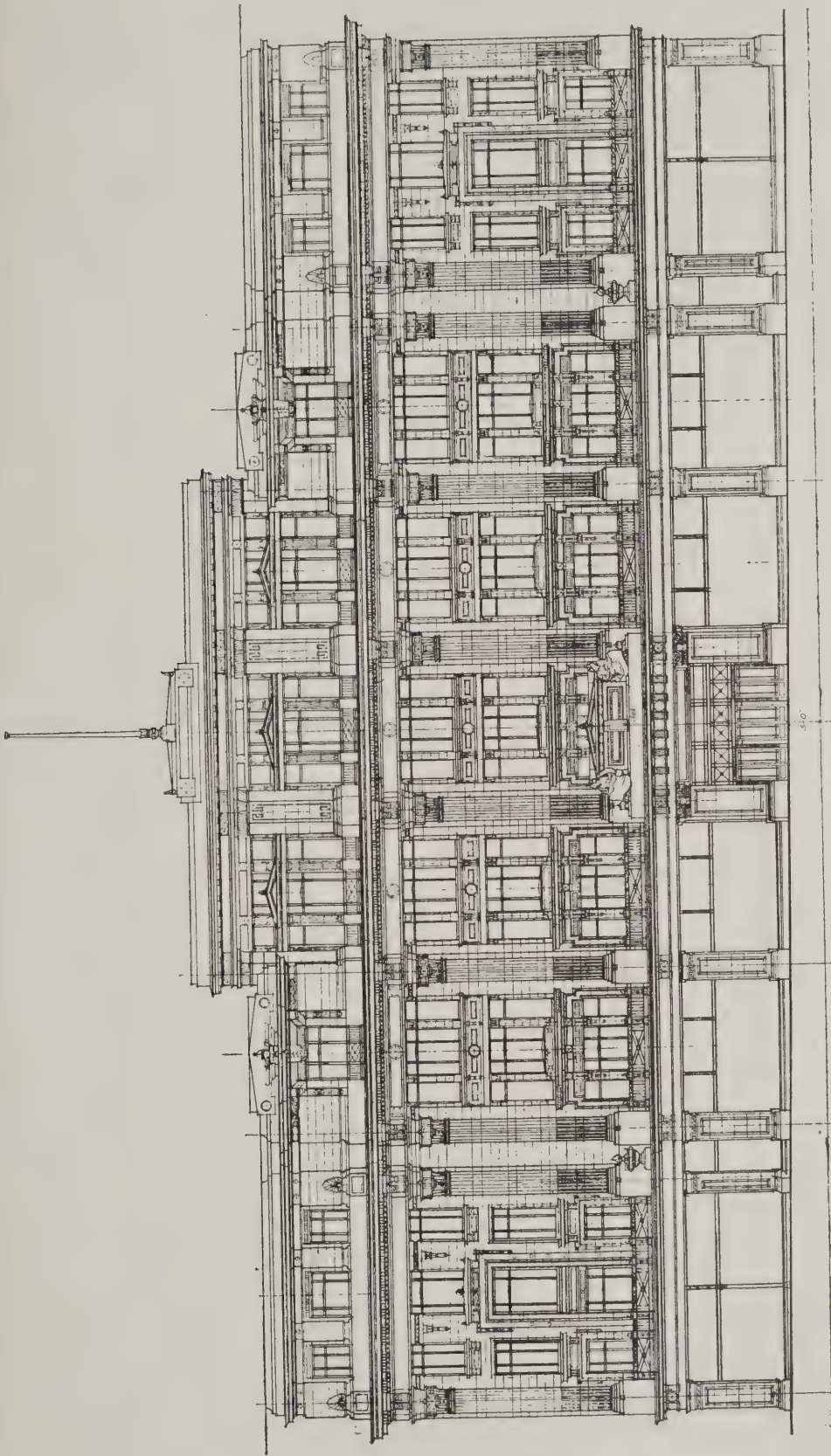
The principal entrance to the building, placed in the centre of the Brighton Street front, gives direct access to the treasury department to the right and leads, by means of a wide vaulted corridor, to the principal staircase hall, from the centre of which rises the grand staircase. On the left-hand side of this entrance is the foundation stone, laid by His Majesty the King on the occasion of his visit to the district in March, 1914. A subsidiary entrance provided in the centre of the Queen's Road frontage, for general departmental purposes, communicating with the passage lift and secondary staircase, and also forming an approach to the central hall. In the centre of the river front another entrance is provided, which gives access to the building from the Promenade. The various departments are arranged as follows:

Ground Floor.—The borough treasury offices occupy half the Brighton Street frontage and the whole of the south side of the building. The Education Department is placed in the centre of the Brighton Street frontage, and the medical officer's department along the remainder of the Brighton Street frontage and the greater part of the Queen's Road. The remainder of the frontage towards Queen's Road is occupied by the large entrance hall and staircases, which give access to the public hall on the first floor. The staircases and entrances are planned that the public hall may be quite independently of the rest of the building. In connection with the public hall an additional entrance has been provided facing the square, which will be used by those arriving or departing in carriages. At the south end of the Brighton Street frontage a side entrance is provided, which gives access to the staircase leading to the artists' retiring rooms at the end of the hall.

The large public hall occupies the whole of the frontage to the square at the first floor level. It is approached at the south end by the staircases previously referred to, which terminate at a large crush on the first-floor level. The public hall is 87 ft. long by 50 ft. wide by 36 ft. high, opening out at the gallery level to a hall of 126 ft. The ceiling of the hall takes the form of an elliptical barrel vault, which is richly panelled and decorated in fine plaster. The walls are to be panelled in oak to the height of the window sills.

Accommodation is provided for 1,200 persons, including gallery, platform and orchestra. The platform is provided with radiating seats in raised tiers suitable for orchestral concerts, with space at the rear for a large organ. Ladies' and gentlemen's lavatories, principal artists' retiring rooms, and large chorus retiring rooms are provided at the rear of the platform as well as ample kitchen accommodation for use in connection with banquets.

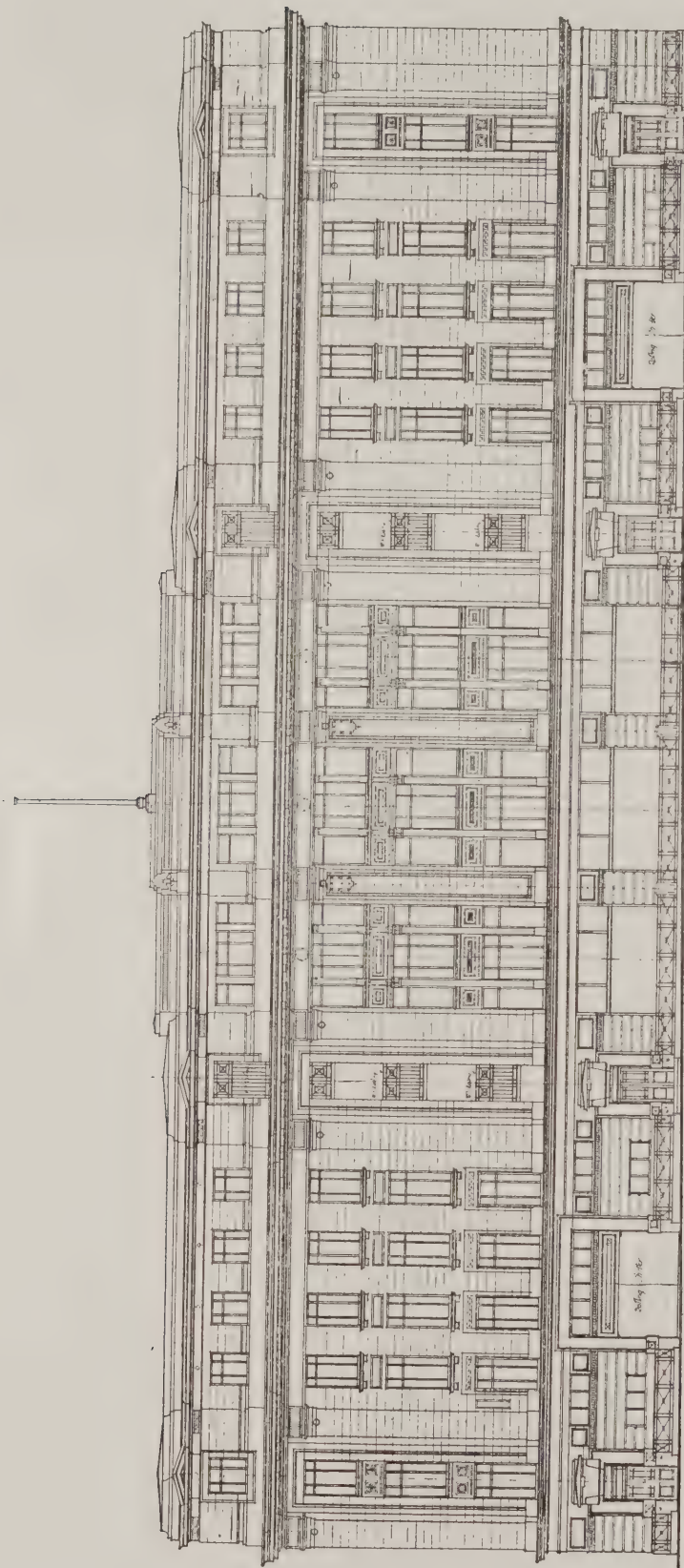
At the head of the grand staircase (the



ELEVATION to REGENT STREET

Scale of Feet

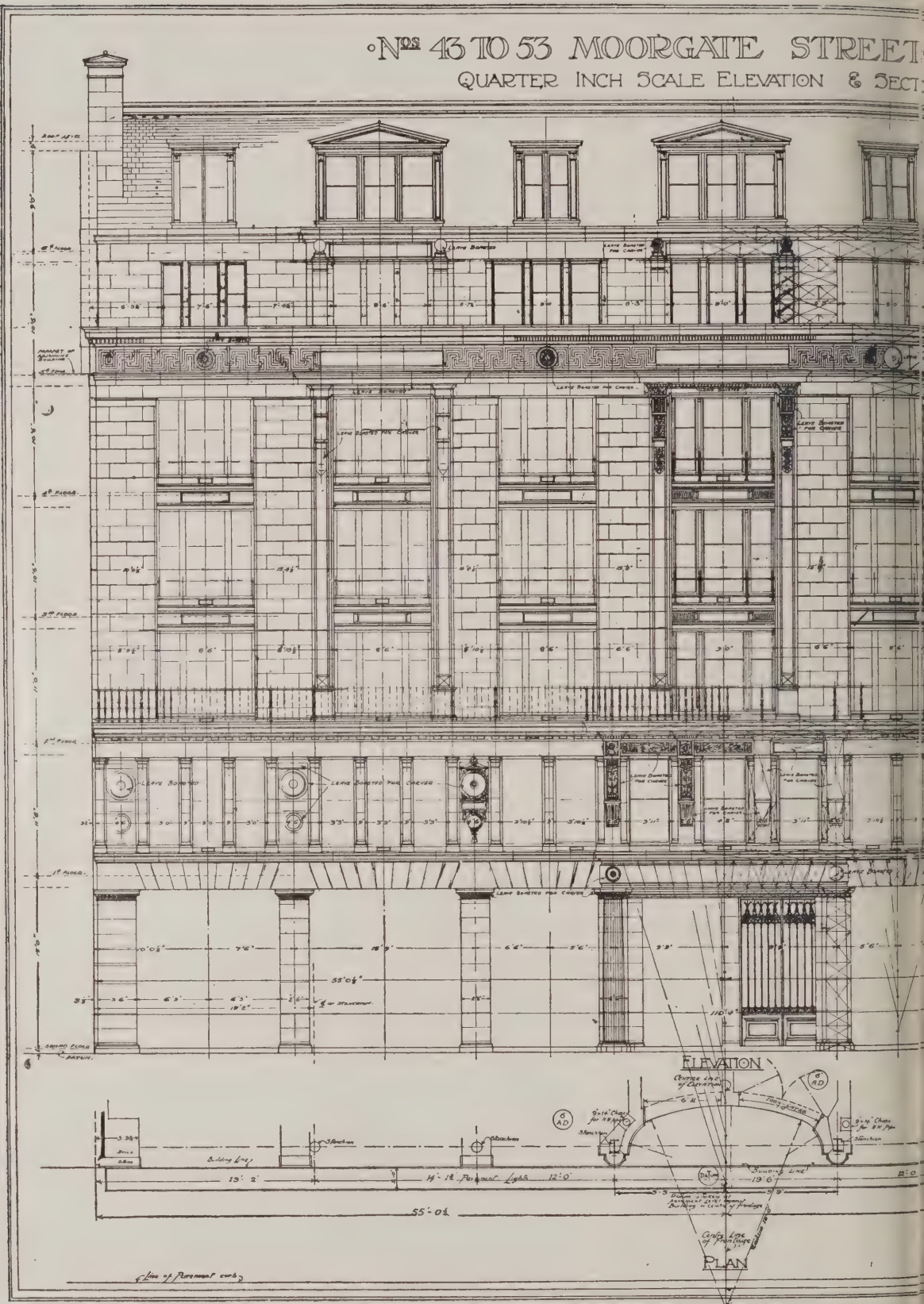
NEW PREMISES FOR MESSRS. DICKINS AND JONES, LTD., REGENT STREET, LONDON.
 SIR HENRY TANNER, C.B., I.S.O., F.R.I.B.A., HENRY TANNER, F.R.I.B.A., AND E. J. TANNER, A.R.I.B.A., ARCHITECTS.



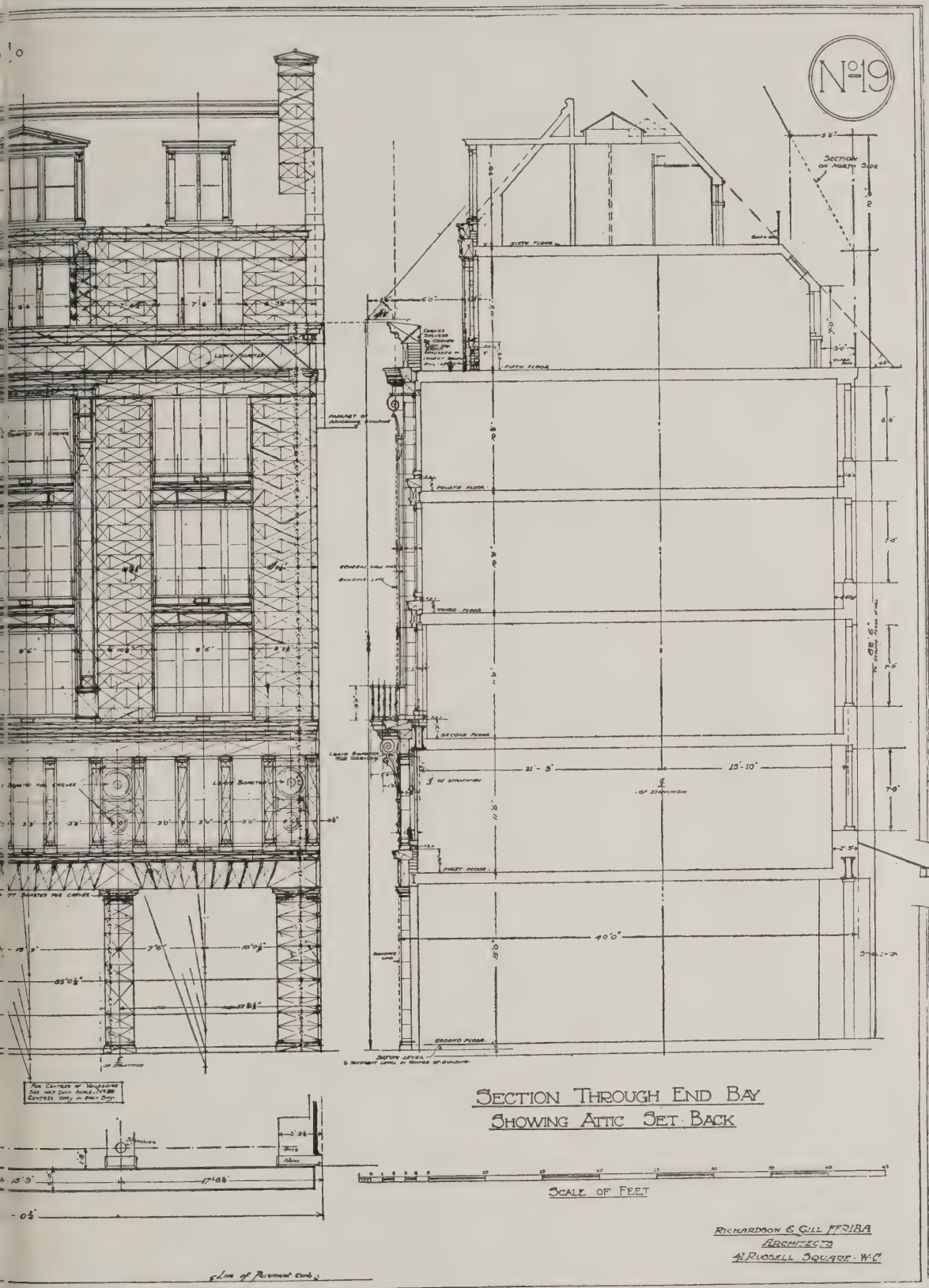
Section Line

ELEVATION to ARGYLL STREET

Scale of 1" = 10' 0"



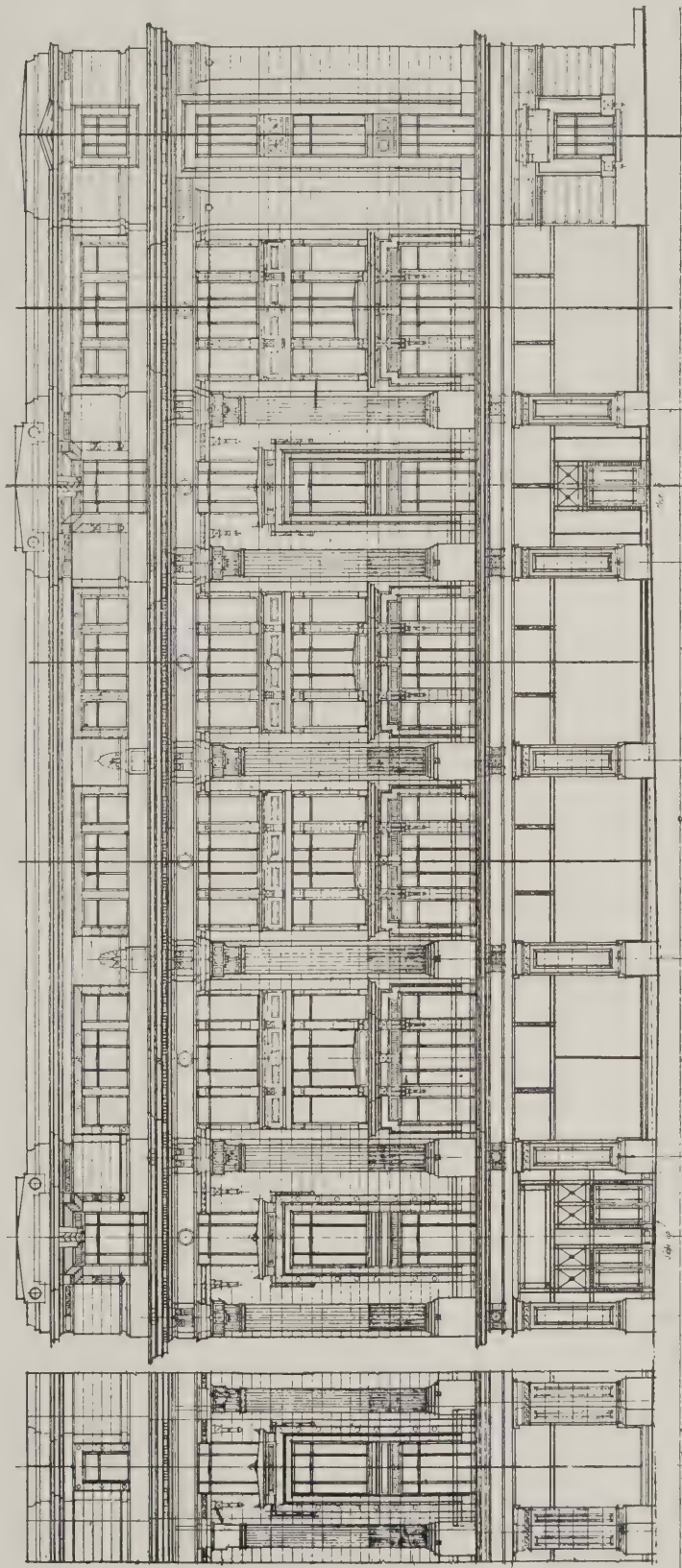
NEW PREMISES, NOS. 43 TO 53, MOORGATE STREET
RICHARDSON AND



LONDON, E.C. : ELEVATION AND SECTION.

R.B.A., ARCHITECTS.

UNIVERSITY OF ALABAMA
LIBRARY
TUSCALOOSA, ALA.



ANGLE ELEVATION

ELEVATION TO ARGYLL PLACE

NEW PREMISES FOR MESSRS. DICKINS AND JONES, LTD., REGENT STREET, LONDON.
 SIR HENRY TANNER, C.B., I.S.O., F.R.I.B.A., HENRY TANNER, F.R.I.B.A., AND E. J. TANNER, A.R.I.B.A., ARCHITECTS.

first floor a large landing gives a further means of access to the public hall through the circular reception-room. To the right and left of the landing wide corridors lead to the town clerk's department on the one hand, and the supper-room, committee-rooms, and mayor's parlour on the other. These rooms, together with the public hall, form a fine suite of reception-rooms admirably suited for entertainments and social functions of all kinds.

The council chamber, which faces the

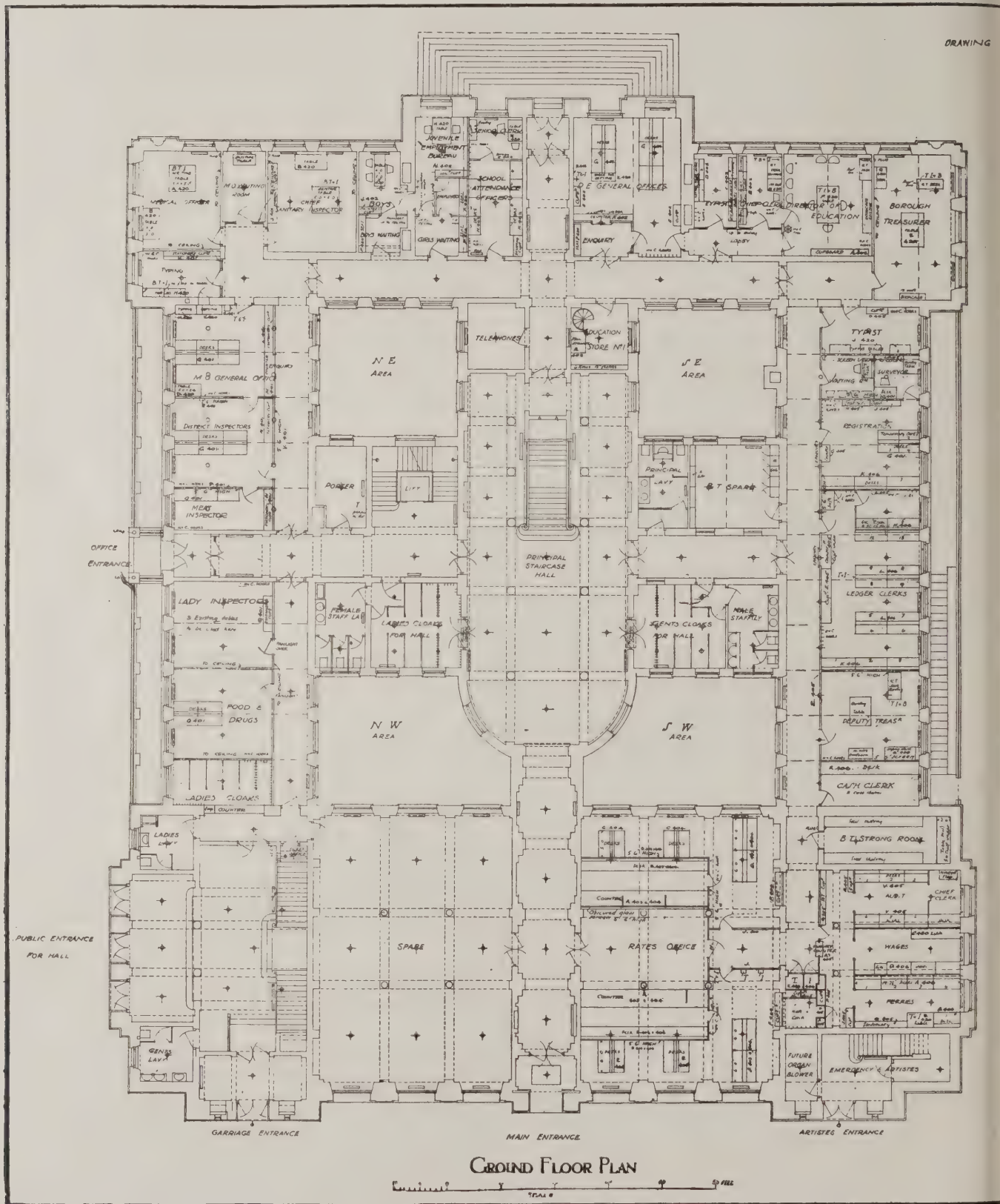
river and is approached from the grand staircase, occupies a central position on the river frontage. It is reached through an ante-room having vaulted ceiling and oak-panelled walls. The chamber is a fine apartment 50 ft. long by 34 ft. wide by 24 ft. high, and capable of seating sixty councillors. The ceiling is richly treated in panelled fibrous plaster. The walls, like those of the grand staircase and corridors, will be finished in French stuc of a warm cream colour. Oak fluted columns

and pilasters and an oak-panelled dado complete the decoration.

Second Floor.—On this floor a borough engineer's department is placed, a number of spare offices occupying the remainder of the space.

Third Floor.—The caretaker's house provided on this floor, and in connection with it dining accommodation for the convenience of the staff.

Basement.—Under the greater part of the building basement accommodates





WALLASEY TOWN HALL, CHESHIRE: REAR ELEVATION. BRIGGS, WOLSTENHOLME, AND THORNELY, FF.R.I.B.A., ARCHITECTS.

has been provided. Along the north side various rooms and offices in connection with the gas department are placed, including a gas lecture-room, where instruction will be given in cooking by means of gas. A large number of store-rooms is provided for the various departments, and a bicycle-room reached by means of a sloping way from the back roadway. On this floor also the boiler-house and vacuum cleaning plant is placed.

The building throughout is in the Renaissance style. Towards the river front a massive tower has been designed which is 34 ft. square and rises to a height of 180 ft. above the Promenade. On the four corners of the tower groups of statuary are placed representing Peace, Courage, Prudence, and Industry. These are carved in stone and are the work of Mr. Bernie Rhind, R.S.A., of Edinburgh. The tower is crowned with a copper urn.

The facing of the building is of white Stancliffe stone from Derbyshire—one of the most beautiful and durable stones to be found in this country.

The construction of the floors and beams is fireproof throughout, and these, together with the domed roof over the reception-room and the constructive part of the top of the tower, have been carried out

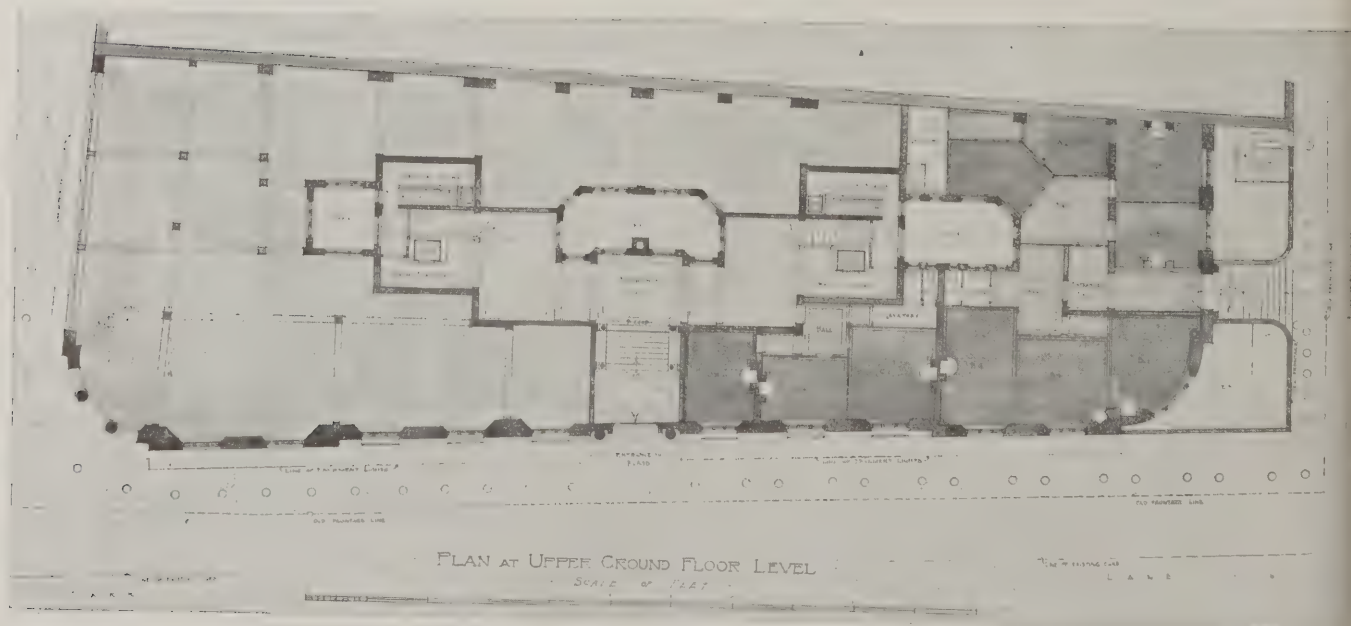
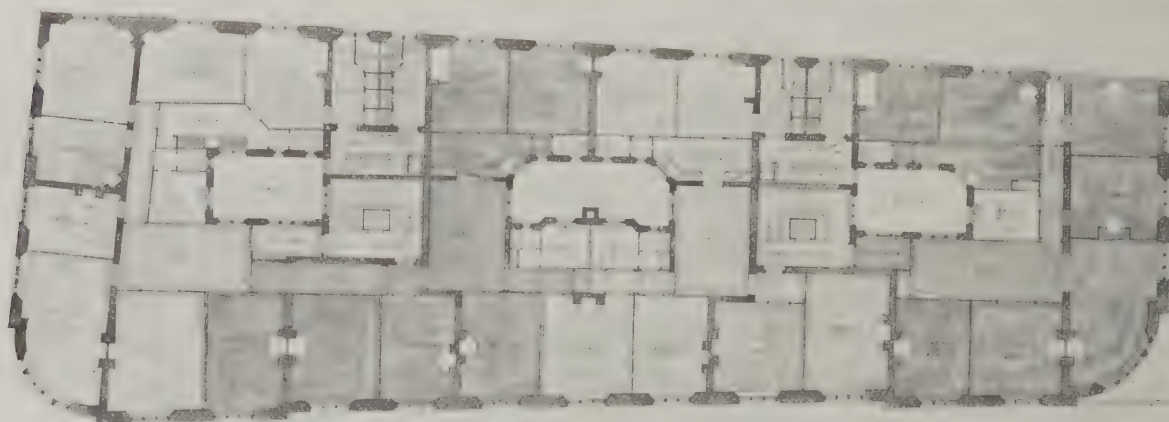
on the "Moss" system of reinforced construction.

The whole of the work has been carried out under the supervision of Mr. G. J. A. Burrows, of Wallasey, who has acted as clerk of the works. Following is a list of the contractors who have been engaged on the building: General contractors, Messrs. Wm. Moss and Sons, Ltd., Loughborough. Sub-contractors: Constructional steel work, Messrs. John Booth and Sons, Bolton; plumbing, Messrs. S. R. Henshaw and Son, Liverpool; heating and ventilation, Messrs. Saunders and Taylor, Ltd., Manchester; electrical work, Messrs. Chesters, New Brighton; electrical clocks, Mr. J. Derryhouse, Liverpool; decorative plasterwork, Messrs. John Tanner and Son, Liverpool; marble work and tiling, Messrs. John Stubbs and Sons, 212, Falkner Street, Liverpool; stone carving, Messrs. Earp, Hobbs, and Millar, 63, Mosley Street, Manchester; steel casement and wrought ironwork, Messrs. Geo. Wragge, Ltd., Salford; copper urn, Messrs. Braby, Liverpool; lifts, Messrs. Waygood and Sons, London and Liverpool; sanitary fittings, Messrs. Oates and Green, Ltd., Halifax; iron escape staircases, Messrs. Hayward Bros., Ltd., London; patent glazing, Messrs. Helliwell and

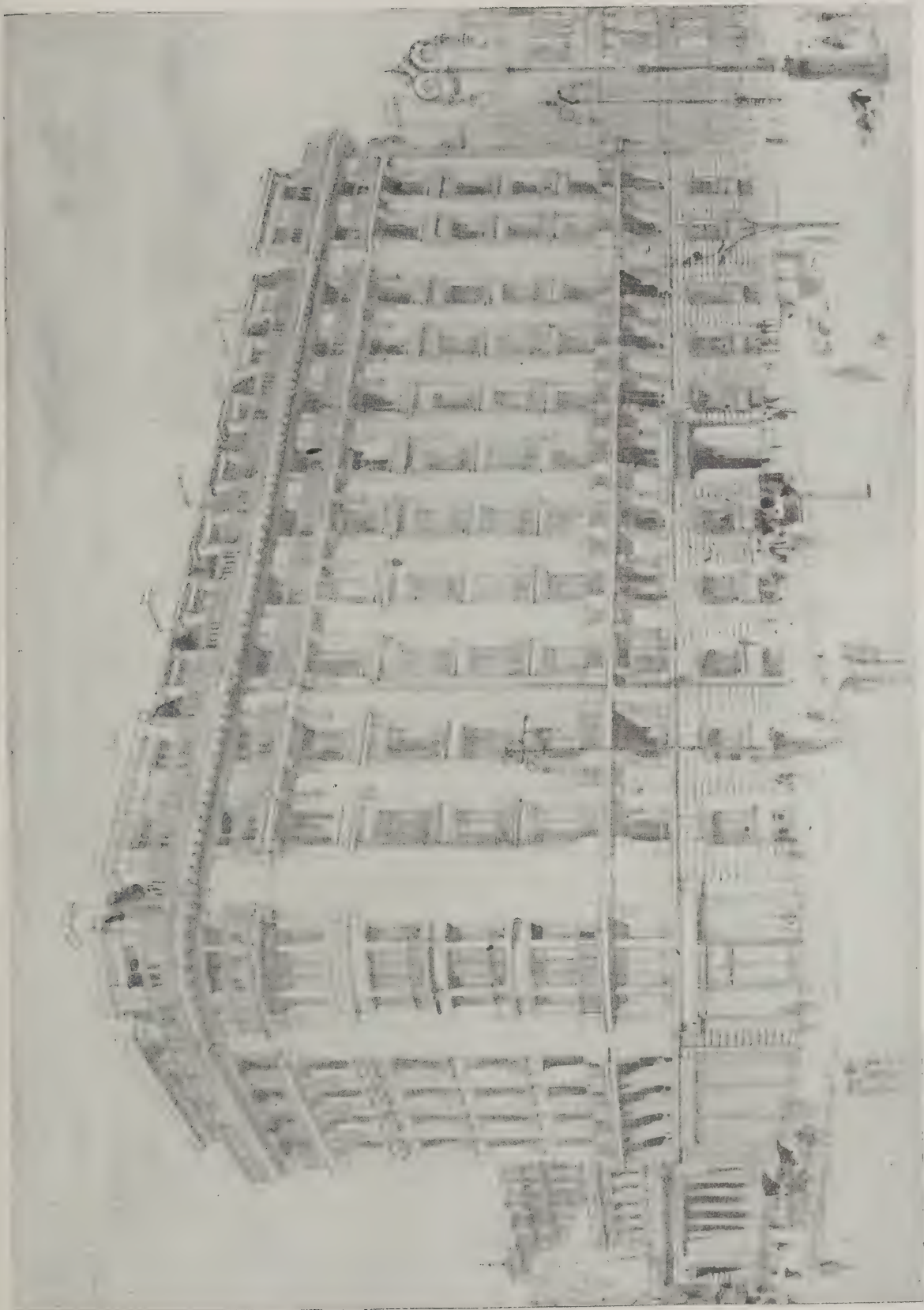
Co., Ltd., Brighthouse; locks and ironmongery, Mr. James Gibbons, Wollamington; safes, Messrs. Milner's Safe Co., Liverpool; cooking apparatus, Messrs. John Wright and Co., Liverpool; concrete, Messrs. The Shap Granite Co., Shap; glazing, Messrs. J. G. Nicholson, Ltd., Liverpool; asphalt to roofs, Messrs. La Brea Asphalt Co., 25, Guildhall Buildings, Birmingham; concrete flagging, North Wales Paving Co., Bangor; vacuum cleaning plant, Fanvac Co., Liverpool; rainwater heating, Messrs. Walter Macfarlane and Co., Ltd., Glasgow; door springs, Messrs. D. Ellis and Co., Manchester; fire appliances, Messrs. George Angus and Co., Ltd., Liverpool.

Flats in Park Lane

This building is at the north end of Park Lane, facing Marble Arch. The work of erection was discontinued during the war but the building is now nearing completion. There are in all twenty-eight sets of flats, and at the south end is a maisonette on the upper and lower ground floors. A general dining-room is provided in the lower part of the building for the use of the tenants, and on the Oxford Street



PLANS OF MANSION FLATS, 40, PARK LANE, LONDON. FRANK T. VERITY, F.R.I.B.A., ARCHITECT.



NEW BLOCK OF MANSION FLATS, 40, PARK LANE, LONDON. FRANK T. VERITY, F.R.I.B.A., ARCHITECT

frontage there are three shops. The principal entrance is placed in Park Lane. The architect is Mr. Frank T. Verity, F.R.I.B.A.

The property has been leased by Sir Thomas Brooke-Hitching from the owner, Mr. J. W. Lorden, M.P. The general contractors are Messrs. W. H. Lorden and Sons, the manufacturing contractors being as follows: Portland stone, Messrs. Bath Stone Firms; steelwork, Messrs. Dorman, Long and Co.; lifts, Messrs. Medway Lift Co.; exterior ornamental ironwork, Messrs. W. H. Cashmore and Co.; pavement lights, Messrs. J. A. King and Co.; marble paving, Messrs. Charles Walker and Co.; electrical installation, Messrs. Semco, Ltd.

School of Oriental Studies, London Institution

This school, which occupies a site in Finsbury Circus, was established by Royal Charter in June, 1916. The aims of the school may be summarised briefly as follows: (1) To provide a great University centre for Oriental and African studies and research; (2) to provide training in languages, literature, history, religions, and customs, for military and civil officers of Government, and for any other persons about to proceed to Africa and the East for commercial or other enterprises.

The school was created as the outcome of the reports of two Government Committees, and is intended to provide London with a centre for Oriental teaching adequate to the needs of the metropolis and of the Empire, and one that will remove the reproach that London has hitherto been without an Oriental School comparable to those of Paris, Berlin, and Petrograd. Adequate buildings were provided for the school by Government under the London Institution (Transfer) Act of 1912, and the sum of £25,000 required for the alteration and extension of the buildings of the London Institution for the purposes of the school was voted by Parliament. The area of the site is about 28,000 sq. ft. The London Institution, now occupied by the school, was built a hundred years ago. This old building has been considerably altered and adapted internally to suit its new purpose, and a large addition has been built on to it, forming a new wing, which contains the class-rooms of the school.

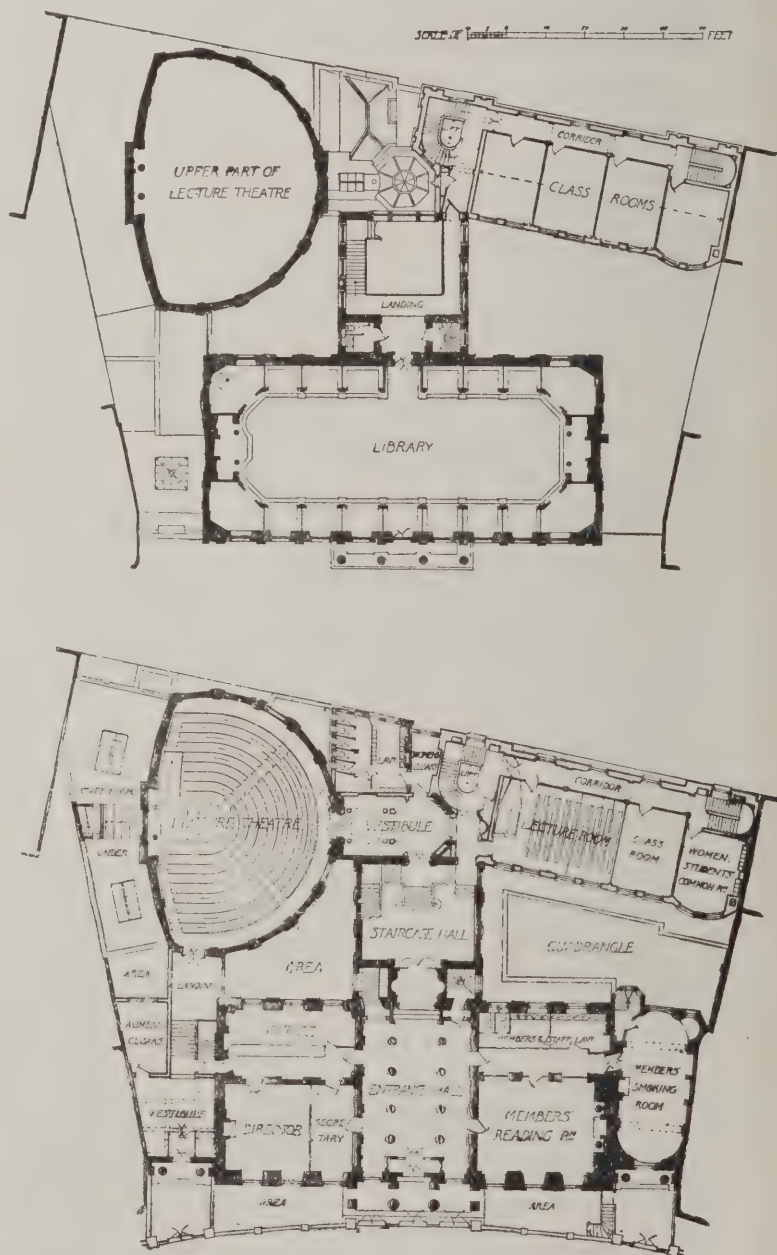
The original main building, which has been redecorated, contains on the ground floor a fine columned entrance hall, 40 ft. by 27 ft., to the left of which are the office, director's room and secretary's room, and to the right two rooms for the present use of the "continuing members" of the old institution, and a members' and staff lavatory.

The range of columns at each side of the entrance hall is spaced like the front peristyles of Ionic temples in Asia Minor; the central intercolumniation being the widest, the side bays narrowing in proportion. Immediately behind the entrance hall is a large and well-lighted staircase hall, 28 ft. by 24 ft., from which there is direct access to the new wing and to the large lecture theatre. On the ceiling of the hall Mr. F. M. Simpson discovered the original decoration of one hundred years ago—cream flowers on a blue ground—and had them restored. The principal staircase leads to the library, one of the finest rooms of its kind in England, which occupies the whole of the first floor of the main block of the original building, and covers a

space 98 ft. by 42 ft. and is 28 ft. in height. The flights of the main staircase originally branched right and left. Mr. Simpson had to sweep away, with regret, the flight on one side in order to obtain communication on the first floor between the old building and the new wing. Along the sides of the library (in which a new fire-resisting floor was laid, with new oak boards on top) are recesses lined with bookcases, and in the corners four small rooms for the librarian and his staff, or for special work. The library has an entirely new scheme of decoration; the wreaths on the frieze are additions. An upper tier of bookcases on the gallery, which hid entirely the main cornice of the room and spoilt its proportions was swept away. The painted enrichments on mouldings and other portions are based on existing remains of colour on the Parthenon and Propylæa, Athens. Above the recesses and corner rooms is a wide gallery, at the level of the second

floor, which runs all round the room, and is lined with bookcases. This gallery reached direct from the library by a spiral staircase, and also by a small private staircase from the first-floor landing of the principal staircase. The private staircase provides access to the committee room and women's staff room on the second floor, and to the caretaker's quarters on the third floor. In the basement of the main building are the men students' common room, luncheon room (with kitchen, etc., at the side), lavatories, lockers, etc.

The lecture theatre, which is part of original design, is stately and well proportioned, 64 ft. in width, approximately semi-elliptical in form, and with seating rising in tiers accommodating about 150 persons. It is exceedingly well lighted by a single circular lantern, which, when required, can be darkened by a specially fitted black blind. The main approach to the theatre was very narrow and cramped.



SCHOOL OF ORIENTAL STUDIES, LONDON INSTITUTION: GROUND- AND FIRST-FLOOR PLANS.



THE NEW SCHOOL OF ORIENTAL STUDIES, LONDON INSTITUTION. F. M. SIMPSON, F.R.I.B.A., ARCHITECT.

and has been doubled in width and entirely remodelled. An entirely new entrance has also been built in the corner, to the south-west of the main building, leading direct from Finsbury Circus, with large vestibule, porter's box, cloak room, etc. This entrance is so arranged that the theatre, when desired, can be cut off entirely from the rest of the building, so as to enable it to be used, with the consent of the governing body, for lectures, meetings, etc., by bodies having no direct connection with the school. In addition to these two entrances there is a new emergency exit to Eldon Street. At the back of the theatre, on its "well" level, are two rooms for the teaching staff of the school, approached from the main building and opening into the theatre by a door from each room. These doors give the lecturers access to the theatre and would also provide additional exit in case of fire.

The teaching work of the school will be carried on entirely in the new wing, save for lectures in the lecture theatre, and reading in the library. The new wing has been built on the old garden of the institution, behind the main building and attached to it. It faces Eldon Street to the north and a courtyard to the south, and consists of a sub-basement, containing the heating chamber, coal cellars, book store, etc.; a basement, the windows of which are above the level of the ground outside, and four floors above. It is reached from the main building, at the basement level from the lower hall, under the principal staircase; at the ground floor level from the staircase hall, as already mentioned; and at the first floor level from a landing which is a continuation of the first-floor landing of the principal staircase. The original old fittings in the main building are exceedingly good and interesting.

On each floor of the new wing is a corridor along its entire length, facing Eldon Street, which gives access to the class-rooms and has a staircase at each end. As regards the elevation of the new wing facing Eldon Street there is only a corridor, with a staircase at each end, along this front. The windows consequently could be few and comparatively small. Few fronts in the City can show so large a proportion of plain wall to window. The western staircase, i.e., the one approached direct from the main building, is the more important, and contains a passenger lift which serves all floors. From this lift direct access is also obtained to the committee-room, on the second floor of the main building through a private lobby and cloak-room.

All the class-rooms in the new wing, seventeen in number, face the courtyard, partly to avoid the noise from Eldon Street, and partly to give them a southern aspect. The basement, first, second, and third floors each contain four rooms, about 21 ft. by 15 ft. 6 in. Two rooms on each floor are fitted as small lecture rooms and two as seminar rooms. On the ground floor is the lecture-room, 32 ft. by 21 ft., with seating accommodation for seventy. By the aid of a sliding partition at the end, however, the seminar room beyond can be thrown into the lecture-room, increasing the accommodation to about a hundred and ten. The lecture-room has a raised platform for the lecturer, a double black-board, and a lantern screen. At the end of the wing on the ground floor is the women students' common-room; their cloak-room and lavatories are on the same floor at the back of the main building.

The London Institution Building was designed and erected by the architect William Brooks (father of Shirley Brooks, for many years editor of "Punch"), in 1815-19. It is a good example of the "Greek Revival" of a hundred years ago, and contains some beautiful detail, especially in the old fittings, mostly of lead. These have had numerous coats of paint removed, and have been repolished to show the original material; the lamps have been fitted for electric lights. In the numerous alterations which have now been made to the original building to fit it for the use of the School of Oriental Studies, care has been taken to retain the old design as far as possible intact, and to make the necessary alterations in the same style as and in harmony with the earlier work. The original front to Finsbury Circus remains untouched, except for the new title over the entrance portico. Special attention has been paid to the redecoration inside the entrance hall, staircase hall, lecture theatre, and library. The new wing has been designed to be in keeping with the main building, both as regards the internal finishings and the outside Portland-stone front to Eldon Street. All additions, alterations, and redecoration were designed by and carried out under the superintend-

ence of the architect, Professor F. M. Simpson, F.R.I.B.A.

The general contractor was Mr. J. W. Jerram, of Plaistow, and the following were the sub-contractors: Bricks, Messrs. The Arlesley Brick Co.; stone, Messrs. The Bath and Portland Stone Firms, Ltd.; steelwork, Messrs. Dorman, Long, and Co., Ltd.; fireproof floors and partitions, Messrs. The Kleine Fire-Resisting Flooring Syndicate, Ltd.; plasterwork, Messrs. G. Jackson and Sons; art metalwork (lettering), Messrs. The Albany Forge Co.; gates and railings, Messrs. The Bostwick Gate Co.; Terrazzo paving, Messrs. Carter and Co.; cleaning and relacquering of lead fittings, Messrs. Tubbs and Farey; a redecoration work by Mr. Jerram; carve stonework by Mr. Jago.

New Office Block, Moorgate Street

This new block of office premises is to be built on a site in Moorgate Street, in which thoroughfare, it will be recalled, Messrs. Richardson and Gill, F.R.I.B.A. the architects, have already erected a huge office building. The new block is of



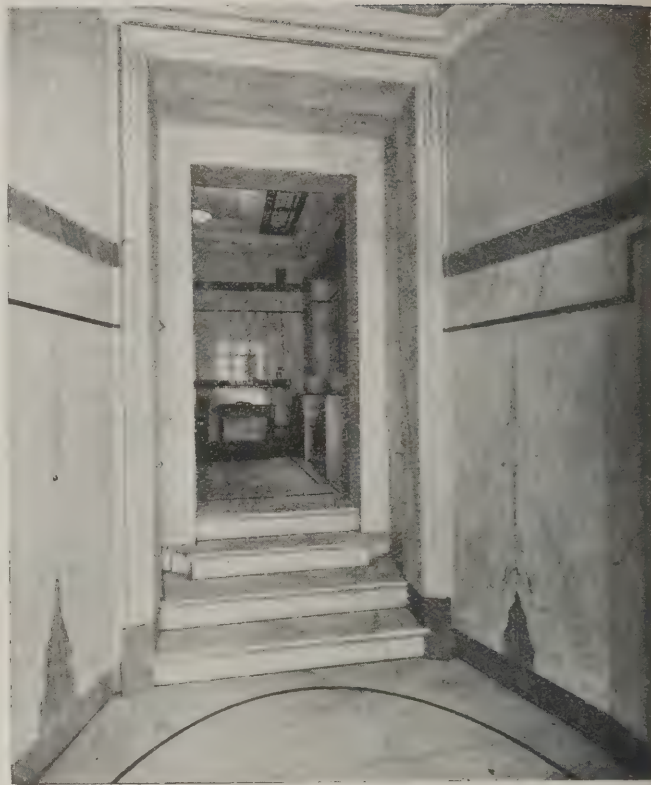
SCHOOL OF ORIENTAL STUDIES, LONDON INSTITUTION: ENTRANCE HALL.



THE NEW SCHOOL OF ORIENTAL STUDIES, LONDON INSTITUTION: THE LIBRARY. WILLIAM BROOKS, ARCHITECT.
REDECORATIONS BY F. M. SIMPSON, F.R.I.B.A.



Entrance Hall and Lift.



Lobby and Entrance Hall.

somewhat similar architectural character. Messrs. W. H. Lorden and Son are the general contractors, and among the sub-contractors are the following: Messrs. Drew-Bear, Perks, and Co. (steelwork); Messrs. The Bath and Portland Stone Firms (stonework); Messrs. Stitson, White, and Co. (sanitary fittings).

Messrs. G. J. Thornton Alder; wrought ironwork, Messrs. Strode and Co., Ltd.; marble decoration, Messrs. Walker and Co.; bronze shop front, Messrs. The Bromsgrove Guild, Ltd.; fire escape stair-

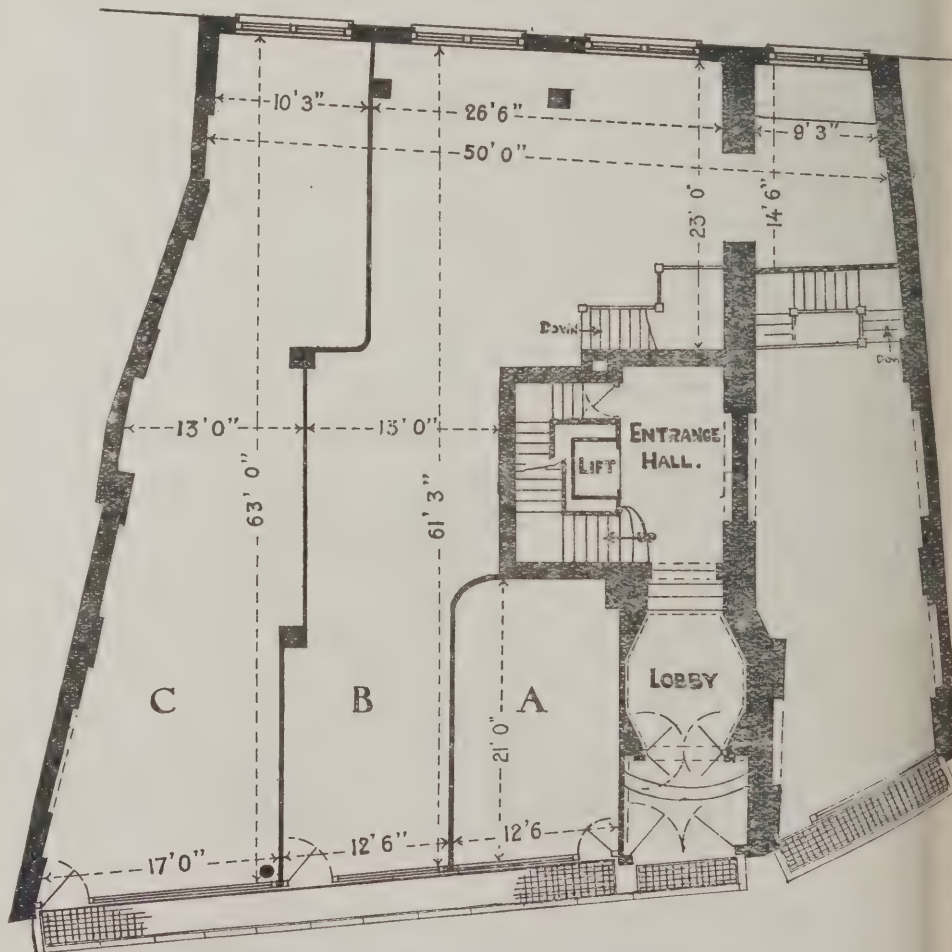
case, Messrs. The Light Steelwork, Ltd. (late Steer and Co.), fire-resisting glazing, Messrs. The British Luxfer Prism Syndicate, Ltd. Messrs. Metcalf and Greig were the architects.

Victory House, Cockspur Street

Occupying an important position in Cockspur Street, the short thoroughfare which forms the centre of the shipping world in the West End, this large building has a well-designed Portland stone front, with bronze and wrought-iron embellishments. On the main elevation are four bas-relief panels representing "Banking," "Travel," "Industry," and "Commerce." These were executed by Mr. L. F. Roslyn, R.B.S., who also carried out the other carving on the building.

Victory House was recently purchased by members of the Chamber of Commerce of a neutral country, who are understood to have acquired the premises as a centre of operations for the extension of trade relations with this country. They will incorporate in the building, banking, shipping, tourist, travel, and other departments, with a business section. Victory House, a building of nine floors, occupies a frontage of 55 ft. to Cockspur Street, and has a floor space of over 16,000 sq. ft. Owing to ancient light difficulties, the rear of the building is set back at an angle, which results in what is probably the largest roof slope in London.

The general contractors were Messrs. Rice and Son, of Stockwell, and the sub-contractors were as follows: Constructional steelwork, Messrs. Lindsay's Paddington Ironworks, Ltd.; lift, Messrs. Waygood-Otis, Ltd.; heating, Messrs. Strode and Co., Ltd.; electric lighting,



GROUND FLOOR PLAN.

VICTORY HOUSE, COCKSPUR STREET, LONDON. METCALF AND GREIG, ARCHITECTS.



VICTORY HOUSE, COCKSPUR STREET, LONDON. METCALF AND GREIG, ARCHITECTS.

New Premises for Messrs. Babcock and Wilcox, Ltd.

This new building being on a site with the side frontages to somewhat narrow streets, it has been designed with a considerable amount of window space to ensure adequate lighting to all the offices. The building is of skeleton steel frame construction, built on reinforced concrete foundations. The nature of the ground, which is in close proximity to the old Fleet ditch, necessitated the loads being distributed over a wide area.

The main elevation to Farringdon Street and the short returns to the side streets are in Portland stone. Westmoreland green slates are used in the roof, and the dormers and cresting are being executed in copper. The remaining elevations to streets and lighting courts are being carried out in white glazed bricks throughout. The windows are steel casements, and the internal joinery is principally in teak and mahogany. Mr. Victor Wilkins is the architect.

The general contractors for the first contract are Messrs. Higgs and Hill, Ltd. Messrs. Dorman, Long and Co., are the contractors for the skeleton steel frame, and the floors are of Messrs. the Fawcett Construction Co.'s "Mon'lithcrete" construction. Messrs. Waygood-Otis, Ltd., are supplying the lift. Kinnear patent fireproof shutters are being supplied by Arthur L. Gibson.

Szlumper, M.Inst.C.E., chief engineer, and the work is being carried out under the direction of Mr. R. D. Hawes, A.M.Inst.C.E., assistant engineer for new works. Messrs. Perry and Co., of Bow, are the general contractors; and Messrs. Farmer and Brindley are executing the sculptural work, the figures having been modelled by Mr. Charles E. Whiffen, a member of their staff. Kinnear patent fireproof shutters have been supplied by Arthur L. Gibson.

Housing : Administrative Work

The following general Housing Memorandum No. 17 with regard to the expenditure of local authorities in respect of administrative work in connection with the erection of houses under assisted housing schemes has been issued by the Ministry of Health:

The Minister of Health has had under consideration questions which have been raised in regard to extra remuneration for work performed by clerks to local authorities in connection with the arrangements for the erection of houses under assisted housing schemes.

In general, and particularly in the cases of the larger authorities who employ com-

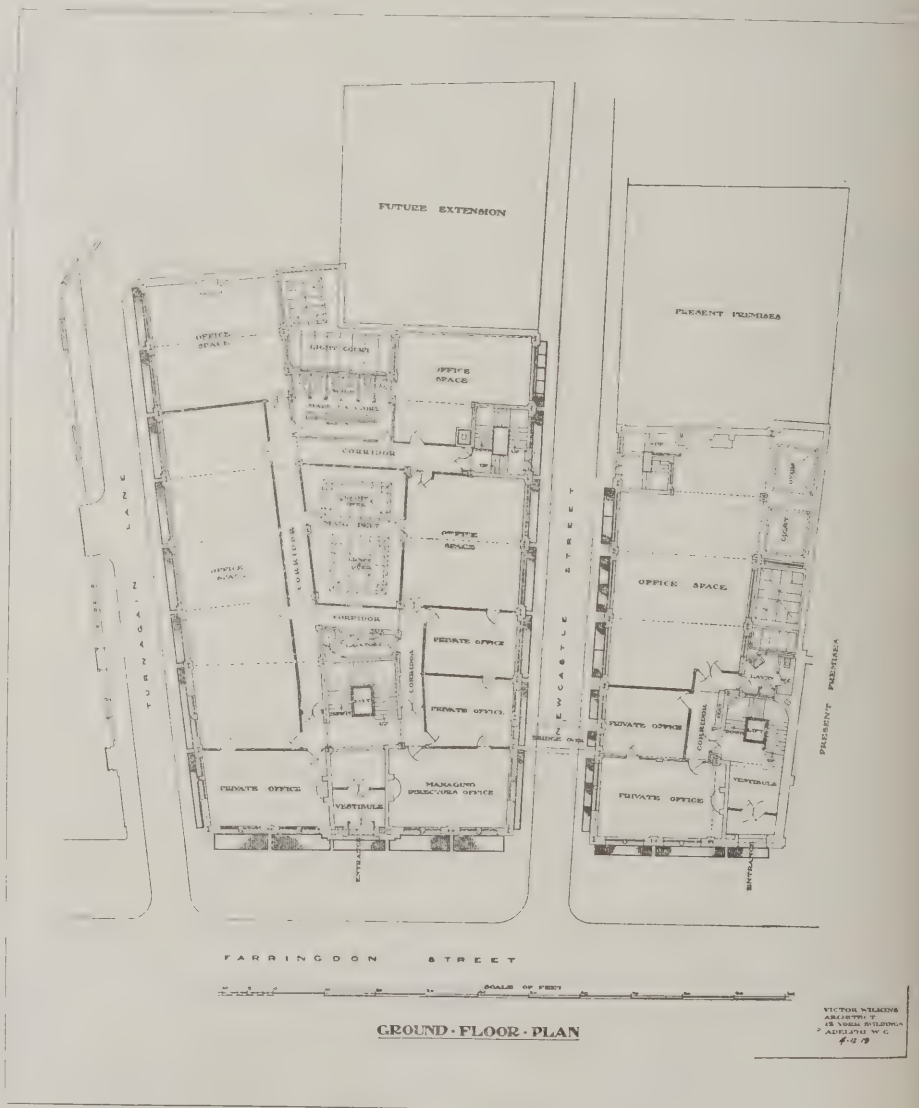
paratively large staffs, it is considered that no departure should be made from the rule that the capital accounts relating to works carried out by local authorities should not be charged with any part of the authorities' ordinary administrative expenses. It is realised, however, that it may be necessary in the earlier stages of a scheme to employ additional temporary clerical assistance specifically in connection with a housing scheme, and where this is the case the payments made for such temporary assistance may be charged to the capital account of the scheme.

In some cases, however, and particularly in those schemes undertaken by rural district councils where houses will be erected upon several sites situated in various parishes, it has been urged that much of the extra work involved will fall upon the clerk himself, and will often prove exceptionally heavy, and that the authorities may consider that some remuneration to the clerk should accordingly be made. In such circumstances the Minister will be prepared to consider an application for authority to charge a payment to the clerk to the capital account of the housing scheme; he will, before sanctioning, require to be satisfied that the work has been efficiently performed, and the amount sanctioned will, as a rule, not be at a higher rate than £100 per annum.

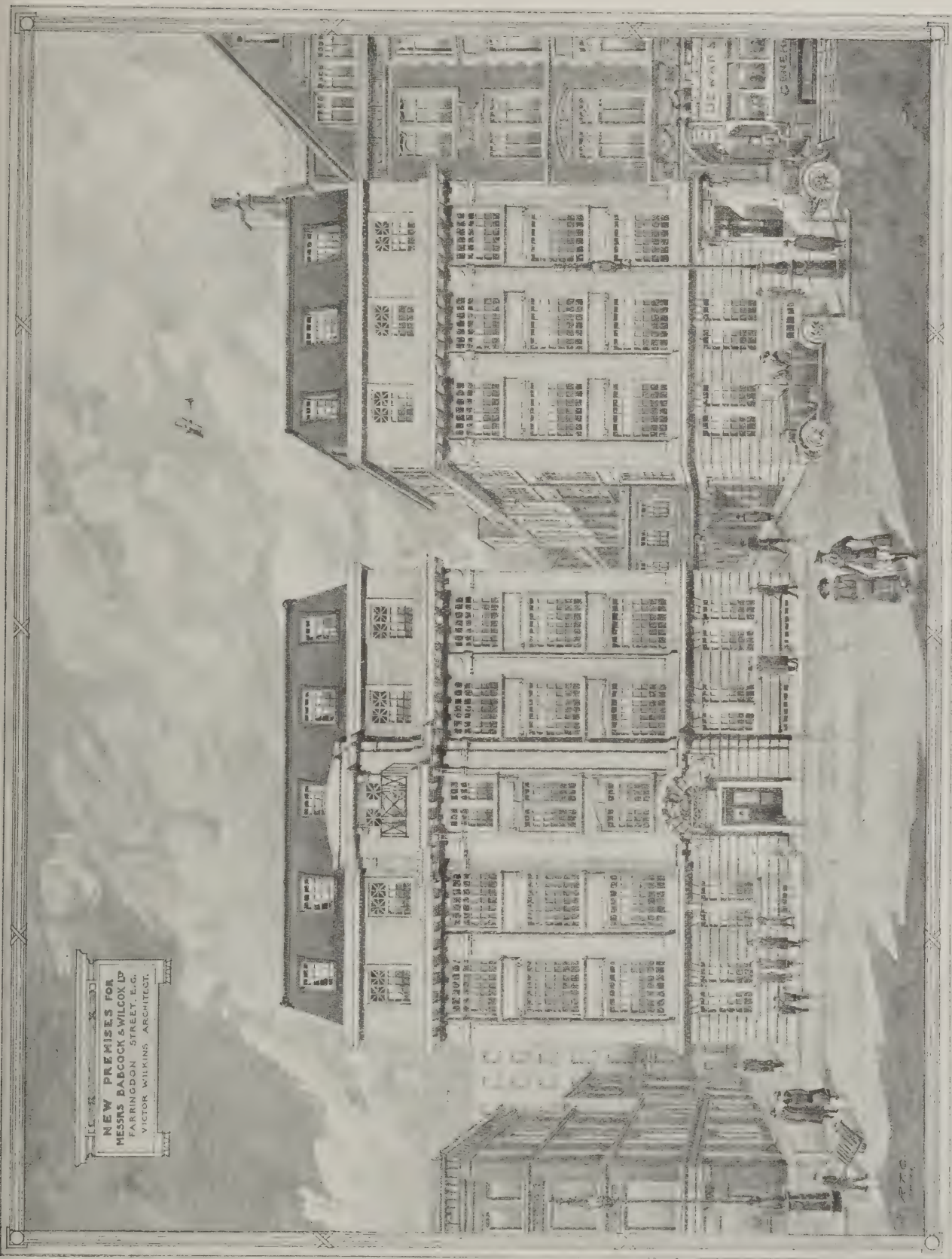
New Office Buildings at Waterloo Station

Our illustrations show the new main entrance for foot passengers and the elevation to the approach road of the new office buildings now being completed at Waterloo Station, London, for the London and South-Western Railway Company. The main entrance for foot passengers has been dedicated by the directors to the men of the company who fell in the war. The sculptural decorations consist of three groups, two of which are semi-circular in composition, placed on pylons either side of the arch. On the left the central figure represents Bellona, the Goddess of War, wild and distraught, clad in scaled armour, seated astride the world, and with flaming torch and naked sword, dealing death and destruction. Peace, the central motif of the right-hand group, is seen seated and enthroned upon the earth, and holding a palm branch and small figure of winged Victory symbolical of victory. Britannia, seated and triumphant, holding aloft the torch of liberty, surmounts the whole. The inner arch over the main entrance is decorated with war trophies and panels, surrounded by laurels bearing the names of the countries in which the men have fought.

In the centre portion the new office buildings, which are 850 ft. long, consist of five floors, excluding the basement and mezzanine floor, and a large tank is provided on the roof. The accommodation provided for the general public in this building, completed some time ago, is as follows: Luggage-hall, refreshment-room, tea-room, general and ladies' waiting-rooms, cloak-room and parcels. On the first floor are the dining-room and tea-room. The remainder of the accommodation will be for the use of various administrative departments. The architectural work was designed by Mr. J. R. Scott, architectural assistant to Mr. A. W.



PLAN OF NEW PREMISES FOR MESSRS. BABCOCK AND WILCOX, LTD.,
FARRINGTON STREET, LONDON.



NEW PREMISES FOR MESSRS. BABCOCK AND WILCOX, LTD., FARRINGTON STREET, LONDON. VICTOR WILKINS, ARCHITECT.



RECONSTRUCTION OF WATERLOO STATION, LONDON: PRINCIPAL ENTRANCE FOR FOOT PASSENGERS
 A. W. SZLUMPER, M.Inst.C.E., CHIEF ENGINEER. J. R. SCOTT, ARCHITECTURAL ASSISTANT.



RECONSTRUCTION OF WATERLOO STATION, LONDON: ELEVATION TO APPROACH ROAD.

A. W. SZLUMFER, M.Inst.C.E., CHIEF ENGINEER.

J. R. SCOTT, ARCHITECTURAL ASSISTANT.



NEW OFFICES FOR THE METROPOLITAN WATER BOARD, ROSEBERY AVENUE. H. AUSTEN HALL, F.R.I.B.A., ARCHITECT.

Metropolitan Water Board's New Offices

By courtesy of the architect, Mr. H. Austen Hall, F.R.I.B.A., we are able to show some "progress" views of the new building for the Metropolitan Water Board, which is now in course of erection in Rosebery Avenue. It will be remembered that a competition for this building was held some time before the outbreak of the war (Mr. E. Guy Dawber, F.R.I.B.A., assessor), Mr. Hall's scheme having been selected from among a large number of competitive designs. The work was held up during the war, in common with many other big contracts, but it has since been resumed and, as will be seen from the illustrations shown, is now nearing completion. In spite of the old wall which at present hides the building largely from view, it is possible to get a good idea of the dignified character of Mr. Hall's elevations. The principal entrance, with its gracefully designed carving, is a particularly handsome feature. The general contractors are Messrs. Rice and Sons, and the following are the sub-contractors: Constructional steelwork, Messrs. H. Young and Co.; heating and ventilation, Messrs. J. Jeffreys; marble, Messrs. J. Whitehead and Sons; staircase balustrades, Messrs. Singer and Co., Frome; plastering, Messrs. A. and S. Wheater; sanitary fittings, Messrs. Shanks and Co., of Barrhead; hard-wood joinery, Messrs. S. Elliott and Sons, Ltd., Reading.

Unlike most of the other architects who took part in the competition, Mr. Hall designed his building with its principal entrance facing down Rosebery Avenue, the elevation to the Avenue itself being actually a side elevation. His plan ensures a fine view of the building as approached from the direction of the City. Mr. Hall, it will be remembered, is also the architect for the Lambeth Town Hall, the competition for which he won in conjunction with Mr. Septimus Warwick.



DETAIL OF PRINCIPAL ENTRANCE.

Women and the Housing Schemes

The Ministry of Health have issued a circular, No. 40, to local authorities with regard to the recommendations of a Subcommittee of the Housing Advisory Council, which recommends that women should have an opportunity of expressing opinions on the lay-out, plans, internal fittings, lighting and heating of the houses to be erected. The Committee recommended that the plans and lay-out should be publicly exhibited before being approved by the Minister, that it is desirable that local authorities should co-opt women members on the Housing Committees, that men's Advisory Committees should be formed in each urban district, and that where there are no organisations, as in rural districts, the plans should be exhibited to a specially convened general meeting of women. Dr. Addison points out that in giving effect to these recommendations care should be taken to avoid introducing new local procedure or causing delay to the housing scheme. Dr. Addison observes that the public exhibition of plans should take place before the plans are formally submitted to the Housing Commissioner. Where it has been practicable to exhibit the plans before submission to the Housing Commissioner, comments could be afterwards brought to the notice of the Commissioner.

Where women are co-opted upon a Housing Committee Dr. Addison states that the claims of working women should be specially considered. Dr. Addison remarks that the constitution of Women's Advisory Committees might prove valuable to secure advice. The best way of securing a fully representative body would be for the local authority to invite women's organisations or social workers to form the committee.

Knox Road Special School, Forest Gate

This special school has been designed so that the teaching shall be in the open air as often and as continuously as our variable climate will allow, that when it is wet but mild the verandah in front of the classrooms shall be used, and that in inclement weather teaching shall be indoors.

The plans comprise two distinct schools, one for children physically defective and the other for children mentally defective. Each department has one class-room providing for twenty-five children, and two rooms for twenty, the total accommodation thereby being for 130. The classrooms are arranged so that all the windows can be thrown open, or as many as are required to give complete ventilation without draughts.

The corridor at the back is intended to

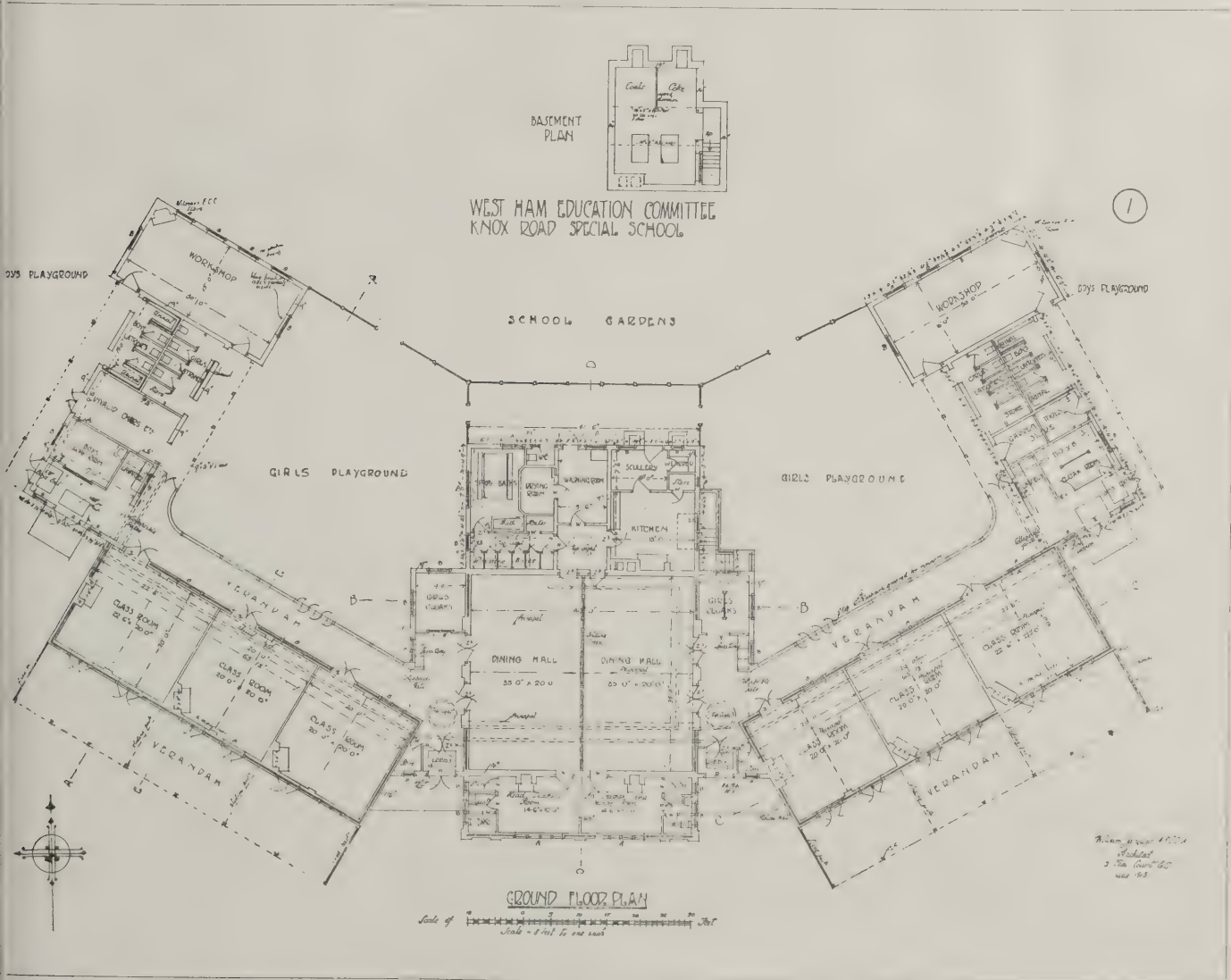
be an open corridor throughout the summer and milder months, and closed in by means of sliding and folding partitions and warmed, but still amply ventilated, when the time of year requires it.

A number of Esavian sliding and folding screens, supplied by the Educational Supply Association, Ltd., are fitted to the verandah. These are admirably adapted for the conversion of buildings into open-air schools, particularly as both top and bottom can be rebated and thus made weatherproof; while in favourable weather the screens can be folded entirely back, leaving the whole of the available space fully open.

A dining-room is provided for each school, separated by sliding and folding partitions, which, when occasion arises, can be thrown back, thus providing a large room for assembly, etc.

Two teachers' rooms, with lavatory accommodation, are provided and entered from the last-named room. At the rear of the dining-room are grouped the kitchen and scullery, bathroom, fitted with sprays, dressing-room, with boxes, washhouse, etc.

The contractors for the various portions of the work were as follows: Building, first contract, W. J. Maddison; completion, H. C. Horswill; heating, W. H. Gascoigne; electric light, Commercial Telephone and Electrical Co.; furniture, Bennet Furnishing Co.; tar paving, Chittenden and Simmons.



Greenock Improvement Scheme

A considerable area of ground at present occupied by small property is to be cleared to make way for the extension of Messrs. Harland and Wolff's shipbuilding yard, under the Greenock Improvement Scheme, which has now been passed by Parliament. Embraced within the area is a good deal of slum property, forming one of the oldest parts of the town. Of historic and sentimental interest are the Old West Kirk, which will be taken down and re-erected on another site, and Highland Mary's Grave, which Messrs. Harland and Wolff have undertaken to safeguard. Greenock's original harbour, the West Harbour, is also scheduled under the scheme. It will be filled up.

Messrs. Harland and Wolff's present yard (formerly owned by Messrs. Caird and Co.) extends to fourteen acres. When the enlargement is completed it will comprise thirty-four acres, and will be capable of turning out the largest type of steamer.

The progress of the extension will depend very largely on how quickly the housing question is tackled. Under the scheme four streets will disappear, a portion of six others will be affected, and, in all, 306 houses will be swept away. The population to be displaced numbers 2,321, and before the work of demolition can be proceeded with housing accommodation will have to be provided for the tenants turned out. Further, it is estimated that as the result of the shipyard extension employment will be given to an additional 7,000 or 8,000 workers.

Lift Enclosure and Car at the American Embassy

The design of this enclosure was regulated to a large extent by the unusual length of the staircase well, of which the lift car itself occupies only about one-half. It was felt that a more protective wire-mesh screen, fixed on top of the balustrade, and raking with it—as frequently met with in office buildings—would be unworthy of an Embassy. Moreover, such a screen, unless made continuous throughout the length of the balustrade, would also leave the unsightly wire ropes, balance-weight, and steel runners of the lift exposed to view.

A self-supporting structure formed within the staircase well, and rising from the ground to the second floor independently of the balustrade, was therefore decided on. This structure, as the drawing shows, consists of a framework of main uprights and horizontal members, filled in with close lattice-work panels in those positions where any danger to persons using the staircase was to be apprehended from the moving parts of the lift, open-work lattice in places out of reach, and wrought-iron grilles of plain bar-work above the doorways, these latter being continued as horizontal bands all round the enclosure in order to counteract the otherwise excessive verticality of line; the whole unified in design as far as possible into an entity completely enclosing the lift and its accessories, and mounted on an unpierced plinth at the ground floor level, where an aspect of strength was desirable. Gates of simple bar-work, with a touch of intricacy at the top and bottom to give interest, are provided on the more important floors

served by the lift, those on the upper floors being of the ordinary collapsible kind.

The necessary structural alterations to the staircase and in the basement have been carried out by Mr. Edward Jenner; the lift (including the car) was installed by Messrs. Waygood-Otis, Ltd., and the enclosure, which is entirely of wrought-iron with the exception of the infilling of the principal members and the fleurons at the top, which are of cast-iron, finished with powdered bronze, is the work of Messrs. George Wragge, Ltd.

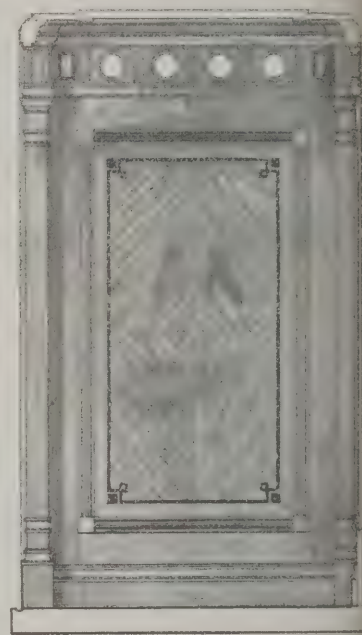
The design of the car represents an attempt to break away from the ordinary type of car, with its unnecessary mirrors at the sides and diminutive balusters ranged round an opening for ventilation in the ceiling. Here the mirrors and the

dado rail are omitted, the sides being formed of large single panels, while ventilation is obtained on the three enclosed sides of the car by means of circular openings in the metopes of a light and freely treated Doric entablature.

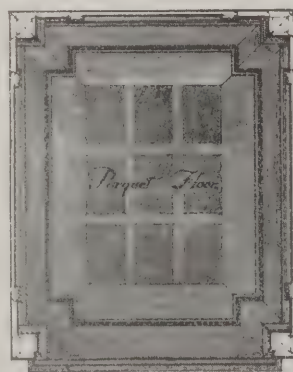
An effect of strength is secured by the sides of the car being framed into solid angle-posts, forming pilasters around which the entablature breaks. Apart from this, something approaching the delicacy of cabinet work is aimed at; all mouldings above the level of the skirting are given the minuteness of detail suitable to a confined space in which every portion is near the eye, and the side and ceiling panels are veneered with quartered "violin-back" mahogany, specially selected and inlaid with dark rosewood.



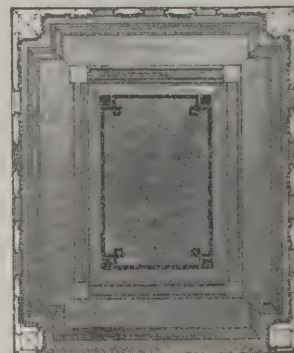
Cross Section.



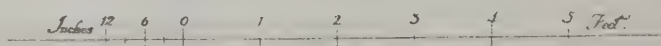
Longitudinal Section.



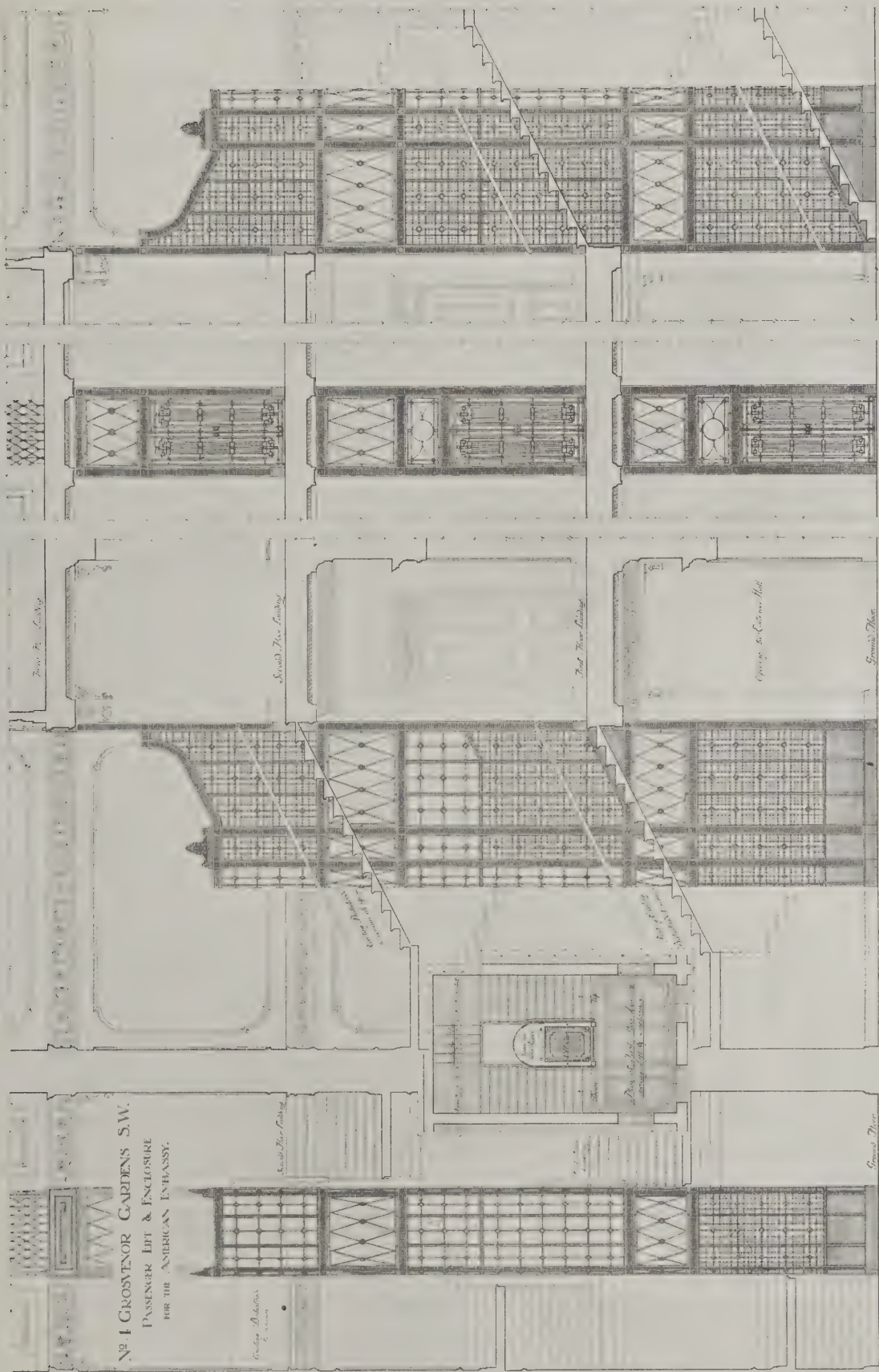
Plan of Floor.



Plan of Ceiling.



DETAILS OF LIFT CAR AT THE AMERICAN EMBASSY,
WHEAT AND LUKER, ARCHITECTS.



PASSENGER LIFT AND ENCLOSURE AT THE AMERICAN EMBASSY, No. 4, GROSVENOR GARDENS, LONDON,
WHEAT AND LUKER, ARCHITECTS.

Central Heating in Principle and Practice

By AMBROSE W. COFFIN, M.I.H.V.E.

THE introduction of central heating in our homes and offices, and the familiar appearance of radiators and other heating media, makes it highly desirable that a knowledge of the laws which govern heat should be understood in order to obtain the maximum efficiency for the apparatus and to reduce the enormous waste of fuel that exists to-day.

Central heating, as it is known to-day, is vastly different from the heating apparatus of even the past generation, when hot-air stoves and high-pressure furnaces held their sway.

Laws of Heat.

The introduction of steam for warming dates back to the time of James Watt, when in the winter of 1765 he applied the principle of steam warming for his house, and although steam has many advantages and adherents on the Continent and in America, the most generally installed system in this country is low-pressure hot water, its obvious advantages being that it is readily and easily controlled, and also the temperature of the surfaces of the radiator with hot water is moderate, hence that unpleasant condition causing dryness of the throat, so often felt in a highly or over-heated room, is not created. Before the question of the other advantages of low-pressure hot water can be discussed it would be advisable to consider the three fundamental laws of heat: conduction, convection, radiation. Conduction is "the passage of heat through or along substances without visible motion

of the molecules or particles thereof." An example of this may be seen in the passage of heat through the plates of the heating furnace, also from the inner to the outer surface of pipes and radiators; and a very important point which is to-day occupying the attention of heating engineers and others who are interested in the great building and housing question is the conductivity of various kinds of building materials, the conductivity of an 18-in. wall being about 40 per cent. less than a 9-in. wall.

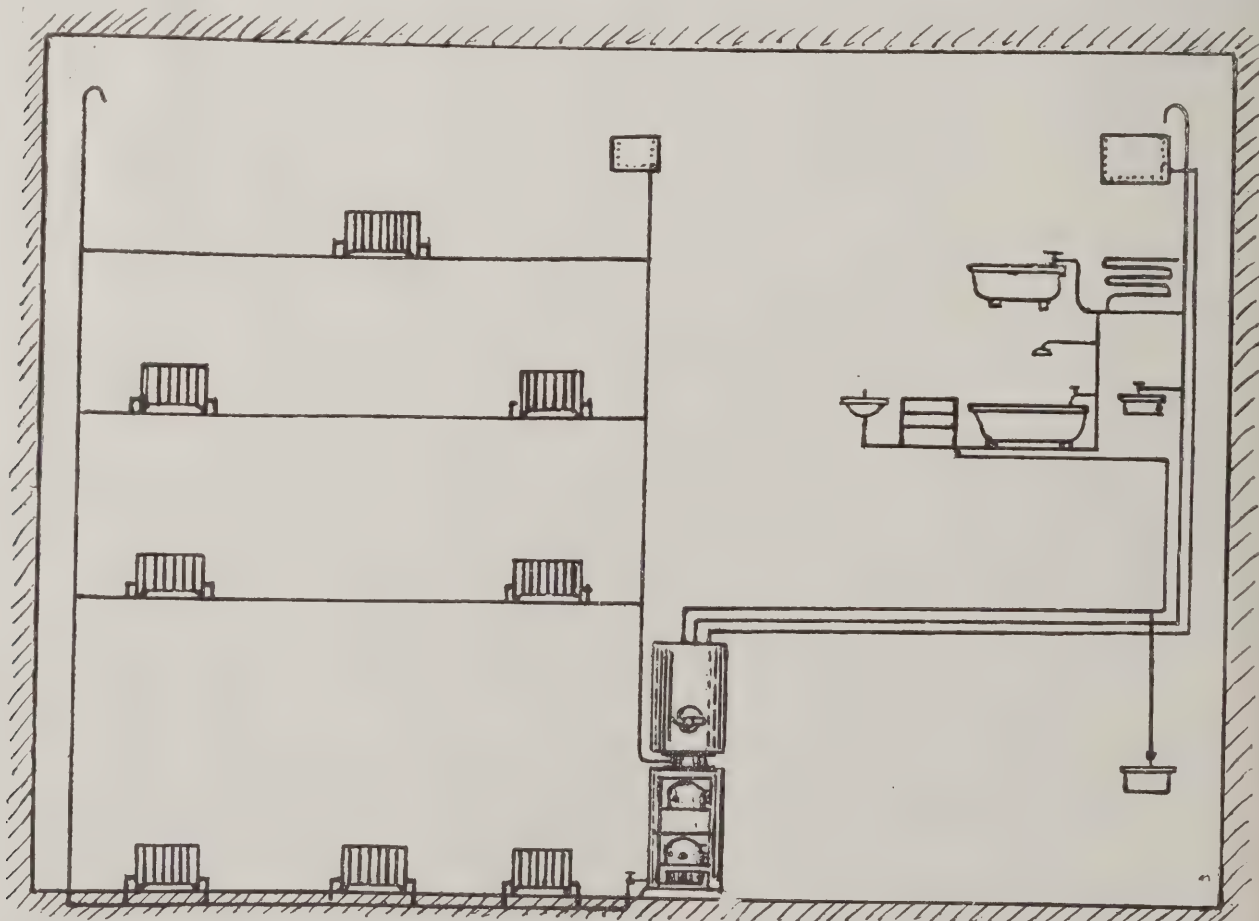
Convection.

The second law, which perhaps enters more into a heating plant than the other two is "convection," which is the transmission of heat by actual motion of the particles of a heated fluid. Any particle or a molecule of a fluid expands when heated, and, consequently, becomes lighter (bulk for bulk), and, being surrounded by heavier or colder particles, the lighter particles rise and float in the heavier mass, and as they cool descend, their place being taken by the hotter particles. Convective action is really the result of gravity. This is exemplified in the low-pressure hot-water heating apparatus. The heat from the fire, being conducted through the boiler-plates, is absorbed by the water in the boiler, and thereby expands and is, bulk for bulk, lighter than the water in the pipes leading to the boiler, this causing the cold water in the system to rush to take the place of the heated water. A constant circulation ensues, and it is obvious

that the rapidity of the circulation depends upon the difference in temperature and density of these two columns of water. Another example of convection is when the cold air comes in contact with a heated surface it becomes lighter and rises, and the colder air, taking its place, causes the circulation of air. This fact can be readily understood and easily seen when radiators are placed against delicately painted walls. There a certain discolouration takes place caused by the convective currents of air passing over the radiator, the wall absorbing the heat and leaving the dust from the air on the surface.

Radiation.

The third law, "radiation," does not enter very largely in a heating system; in fact, the term "radiator" is a misnomer. Convectors would more accurately describe its function. Heat is transmitted by radiation in exactly the same way as light and follows the same laws, and, in fact, can be best understood when considered as a luminous ray. Now, the amount of heat that is radiated in a room varies inversely proportional to the square of the distance, and also it is a curious phenomena to note that radiant heat does not warm the medium through which it passes, but the object upon which it strikes. This can be seen in the magic lantern, which does not illuminate the space between the lantern and the screen and the intensity of light varies inversely as the square of the distance between the light and the screen. All calculations in

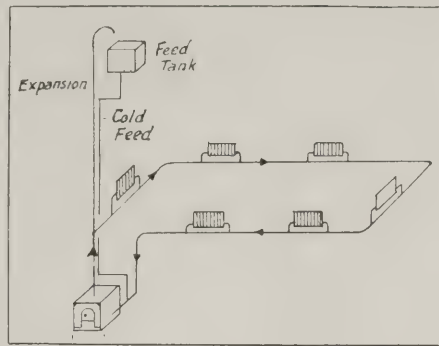


DIAGRAMMATIC SKETCH SHOWING CENTRAL HEATING AND HOT-WATER SUPPLY.

connection with heating installations should be based upon the calorie (the calorie being equivalent to 3.97 British thermal units), that is, in English practice, the amount of heat that is required to raise 1 lb. of water through 1 deg. F., and the heating engineer's first task in designing a heating installation is to ascertain what is the total amount of the heat lost in the room or building. This is calculated, firstly, by measuring the amount of exposed wall, glass, roof, and multiplying by certain known factors; and, secondly, the amount of heat that is lost by the interchange of air, that is, through open doors, windows and other air leakages, the resultant loss being in B.Th.U.'s. Then there has to be apportioned to the room a certain amount of heating surface, either in pipes or radiators. Again the B.Th.U. is employed, because it is obvious that a certain quantity of water must enter the heating media at one temperature and leave at a lower temperature, and the amount of water in pounds multiplied by the temperature difference is the amount of heat that is imparted into the room either by radiation or conduction, and, of course, the higher the temperature then the smaller the radiator that will be required. The position of the radiator in a room is also a very important point to be considered. Unless the system is to be an accelerated one, that is one in which additional motive power is given to the circulation, either by means of a small centrifugal or similar type of pump, or by installing one of the patent systems in which steam or the emulsion of steam is used, then the position of radiators must be determined by its relationship to adjoining doors, etc., but in all cases it is advisable to fix the radiator on external walls and preferably below the windows, the best results being obtained when the radiator is about 2½ in. from the wall and entirely free, that is not enclosed or encased. There are generally adopted three systems of piping for heating installations:

- (1) The drop system,
- (2) The one-pipe, and
- (3) The two-pipe system.

The first is where the flow-pipe from the boiler is taken direct to the top of the building, and from this point pipes known as drop rises are taken to feed radiators,



THE RING MAIN SYSTEM.

but it must be borne in mind that the successful working of the system depends entirely upon the fact that each and every radiator on a drop main must be fixed in close proximity to the main. The hot water being taken to the top of the building direct from the boiler ensures a rapid circulation, but care must be exercised in calculating the sizes of the main rises and the drop rises. The one-pipe system, or ring main system, consists of the flow pipe leaving the boiler at a certain size and returning at the same size, the connections to radiators being taken off the one pipe. The disadvantage of this system is that the water entering the last radiator has already been considerably cooled after having passed through the previous radiators. The other system, which is perhaps more generally adopted, is the two-pipe system, in which the sizes of the flow and return mains decrease proportionally with the amount of radiation, the flow connections to the radiators being connected to the flow main and the return connections to the return main. This ensures that each radiator in turn receives its water at the predetermined temperature and is not cooled by having passed through previous radiators. In each of these three systems it is necessary that the boiler should be placed below the lowest radiator, but not of necessity in a basement. It is quite practicable for radiators to work successfully when upon the same level as the boiler, but this, of course, does not ensure the same rapidity of circulation as when placed at a higher level. Furthermore, the size of pipes leading to the radiators must be very much larger when the

vertical height from the boiler to the lowest radiator is less than when the vertical height is greater.

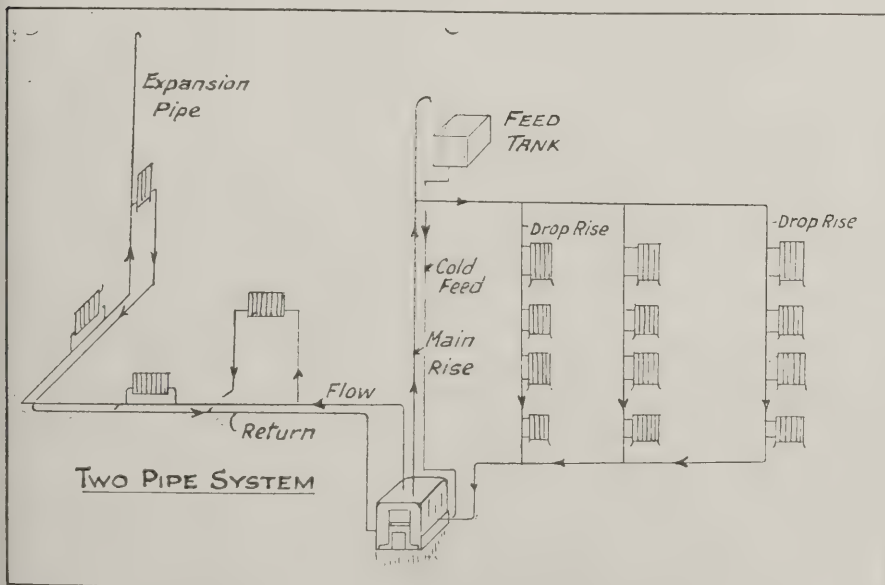
Accelerated Systems.

Allusion has been made to accelerated systems, of which there are many, and perhaps the most generally adopted is the pump system, in which case, particularly in a large installation, considerable saving will be effected in the cost of the initial installation. The boiler can be placed anywhere, in fact, on the top floor if desired. The pipe sizes are reduced by at least 50 per cent. This alone effects a very big saving. Radiators can be placed wherever desired, pipes carried irrespective of levels, cutting away and builders' work reduced to a minimum, and in maintenance a large saving in the fuel bill owing to the rapidity of the circulation. Another system of heating that has been applied to large open factory spaces, aerodromes, and buildings of this nature is the installation of a series of batteries or radiators, through which steam is passed at a high temperature, and air is forced through the batteries by means of a fan and so distributed in the surrounding air. This system has advantages in a large open space, where to effect the same result by means of radiators would mean the installation of a large and expensive piping system and practically lining the walls with radiators.

Central Heating in the Home.

The application of central heating to large mansions, office blocks and factories is so well known that it may be left out of our present consideration, but the question from the point of view of its advantage in the average home and its future in the housing problem will perhaps deserve a little consideration. Much time and thought have been given by municipal authorities and others as to the practicability of installing a system of central heating in a large number of dwellings, to be worked from a central station, and without doubt if it could be installed upon a commercial basis its advantages would soon overcome the average Englishman's prejudice to the abolition of the open fire and the installation of radiators. To obtain hot water with the same ease, and by merely opening a tap as we do with our cold water, and to obtain an even and comfortable temperature throughout the house without the trouble and expense of open fires, is certainly greatly to be desired. The great drawback to this scheme is undoubtedly not the cost of initial installation, for this would be more than met by the saving in building construction, the omission of flues, fireplaces, mantelpieces, etc., but the cost of transmission between the central station and the individual house. Experiments have been made upon these lines, but they can be successful, under the present conditions, only when there is a large amount of waste heat available in the nature of exhaust steam from large industrial undertakings.

Now to consider the advantages derived from the installation of a central heating system in the modern middle-class house and its comparative cost in maintenance with other kinds of heating. Whatever claim may be made by the makers of any kind of heating apparatus, be it electric fires, gas stoves, anthracite stoves, it must be obvious to all that it is not possible to obtain from any apparatus a larger amount of heat than the heating medium contains. Therefore, if a 1,000 cubic ft.



DIAGRAMMATIC SKETCH SHOWING OVERHEAD OR DROP SYSTEM.

of gas contains to-day (as it did before 1914) 550,000 heat units, then no matter what kind of stove or fire is used it is impossible to obtain a greater efficiency than 100 per cent. The same proposition applies equally to a unit of electricity (3,500 B.Th.U.), or a pound of coke (approximately 10,000 B.Th.U.). The principal point to be determined in comparing the different methods is the efficiency of the apparatus used. Thus, if an electric fire consumes three kilowatts per hour, the three kilowatts, or its equivalent, 10,500 B.Th.U.'s, have been emitted into the room.

Advantages of Central Heating.

The advantages and comforts of a centrally heated house are principally labour and fuel saving, and the comfort of an equal distribution of heat throughout the house. The modern type of heating boiler will transmit into the water on an average 65 per cent. of the calorific value of the fuel consumed, and so into the radiators and rooms, whereas with the old-fashioned open fire perhaps 75 per cent. of the heating value of the coal is lost, in addition to poisoning the atmosphere with the unconsumed fuel in the shape of soot. If this could be calculated in tons of coal the waste would be found to be appalling. Perhaps our legislators some day will take a leaf out of the history of the Parliament of the time of Edward the First, when a law was passed forbidding sea coal to be burned in an open fire, and, in fact, at least one gentleman at that time paid the

penalty for so doing and was beheaded. Of course, there are many systems upon the market at the present time—apparatus of all kinds suitable for all conditions and all types of houses. One particular stove consists of a small cast-iron boiler and oven attached, and, in addition to heating the radiators, will cook a meal and supply all the hot water for the domestic uses. This apparatus is very economical in fuel and very suitable for the workman's cottage and the small suburban house.

Another system consists of a wrought-iron boiler and a wrought-iron storage cylinder superimposed thereon. The inventor of this system states that it is possible to heat the water for the radiators and at the same time have abundant hot water, each being entirely separate and heated by one fire. The apparatus is very compact and needs only one flue. A great point in the favour of this system is that when the nights are chilly and the days are warm the radiators and the heating system can be turned on or off at will, and the labour and trouble that would be entailed in the lighting of another fire are thereby saved.

Brief mention might also be made of Berry's Colec system, a combination of central heating and electricity, in which the inventor claims to eliminate the two admitted disadvantages of central heating as ordinarily installed to-day—the danger of overheating and the resultant feeling of stuffiness; and, secondly, by the introduction of an electric fire which has the

appearance of a coal fire, to give the cheerful appearance and feeling of warmth; the principle adopted being to raise the temperature of the room or house to, say, 55 deg., and to impart the remaining five or more degrees by electricity; in fact, a combination of convection and luminous radiant heat.

Having decided upon a central heating installation, a few observations as to deciding upon the successful contractor might ensure a degree of fairness to both the contractors and owner.

Water Temperature.

A point of some importance is the predetermined water temperature that the installation is designed to work at, because, as previously stated, the higher the temperature of the water in the radiators, and obviously the more rapid consumption of fuel, higher stack gas loss and lower efficiency of boiler, then the smaller amount of heating surface required. In fact, in no case should the temperature of the flow pipe exceed 180 deg. F., and only then under exceptional conditions. The lower the mean temperature in the system the more comfortable, hygienic, and economical it must be. Due care should also be exercised particularly when contemplating heating installations on a large scale to ascertain the required size of the brick flue, because upon this, and this alone, will depend, apart from the design of the installation, the success of its future working.

The Economical Use of Electric Light

IT is only too often the case that the electric light installation is among the last things thought about in designing or constructing a building. To some extent this is a compliment to electric lighting. There is so little difficulty in running electric wires, either in conduit or in casing, to any part of a building, even after it is completed, that the architect may well be forgiven for leaving the subject until all the more vital and less superficial parts of the structure have been arranged. Lighting is, in fact, treated as a kind of accessory, and its main interest for the architect lies in securing harmony of style and effect between the electric light fittings and the surrounding decorations. The electrical contracting firm is frequently relied upon to see that the illumination is adequate, and as installation contracts are generally decided upon cost, the main interest of this firm is, in turn, to simplify the job so as to get in below all competitors.

Scientific Lighting.

Under such conditions the client will probably be given a lighting installation moderate in first cost and—in the cases of houses and public buildings, aesthetically satisfactory. It does not follow, however, that he will obtain the installation which would be most economical in current and most efficient as a source of illumination. Illuminating engineering is a very young branch of applied science. Before it was cultivated seriously, lighting systems were arranged on a combination of tradition and rule-of-thumb, controlled in most cases by a desire for initial cheapness. Taking the general run of factories and public buildings, the arrangements for artificial lighting are often the least satisfactory feature in their equipment. In the factory they do not assist the operatives to do their

work in safety, comfort, and freedom from eye-strain. In public buildings it is easy to find innumerable cases where the lighting is either excessive or inadequate, where glare contrasts with heavy shadows, and where the cost of current for the installation is swollen by lack of forethought in the lay-out of the circuits.

It is to the last-named feature that we would direct attention for the moment. As a general proposition it may be asserted that few installations realise the full economies possible with electric light. Electric light is more than a mere substitute for other forms of light; it is a new mode of illumination. The ease with which lamps may be placed in any position, the range of candle-powers available, the simplicity of control over single lamps or groups of lamps from any number of convenient positions—these and other features give the builder something much more flexible, both in arrangement and in use, than is generally understood. But in order to obtain the fullest advantage from these features, careful study must be made in advance of the exact requirements in each case. The nature of the building and the purposes to which it is put must be examined to discover how the use of light will vary in different parts at different times of the day, and when all the data have been collected it will be possible to arrange the installation so that the consumption of light will closely follow the demand, saving current and giving adequate service at all times.

The Placing of Switches.

The question of the proper position of sources of light will be considered later, following on a description of the new forms of electric lamp now available. The economical use of electric light depends not only on the efficiency of the lamps and

their appropriate position, but also on the switching arrangements. Although it may appear a paradox, the fact remains that the switching arrangements in the majority of buildings are not complicated enough to be economical. Light is wasted because too much trouble is involved in walking to the point where the switch is placed, or because circumstances make it impossible to use the switch so as to save current.

Take, for example, the case of a store-room in a basement reached through a passage and a stairway. On entering the passage the storekeeper switches the passage lights on to guide him to the stairway; if there is no second passage switch at the head of the stairs he must leave the passage lights on. Similarly with the stairway lights, so that he is obliged to keep all these lights burning until he returns from the storeroom. And in the storeroom itself it may be necessary to collect articles from different bins and alleyways, and if all the lights are controlled solely from the entrance position, he must either switch them all on right away or go backwards and forwards to the switches.

In a case of that kind it is easy to see that a judicious system of lamp control from various convenient points would both assist operations and save electricity. Admittedly, the multiplication of circuits and switches adds to the original cost of the installation, but the addition is not heavy, and, in a large building where the consumption of electricity becomes a weighty item, day by day economies in consumption are worth buying at the price of increased capital outlay. Moreover, the proportion that an electric light installation bears to the total cost of a building is so small that a fractional increase is not a formidable matter. Architects and builders should not, therefore, neglect the

of switching. It is a real art, and great genuity has been exercised in designing sorts of controls which reduce the demand upon the occupants of the building the simplest terms and the consumption of electricity to the lowest point compatible with the fullest illuminating service.

As every building is a law unto itself as regards the lay-out of its electric lighting circuits and their controls, it is not possible to do more than suggest the general principle of economical switching. Nevertheless, a type of switch and wiring arrangement will be found available for every requirement that an architect can suggest as tending to economy and convenience.

The Selection of Lamps.

As for the second factor of economy in electric lighting—the selection of lamps—the situation is even simpler. In order to understand the advance made in the economy of electric lighting by the improvement of electric lamps it is useful to glance over the interesting history of this branch of invention. Twenty years ago the arc lamp and the incandescent electric lamp with a filament of carbon were the only lamps available for general lighting. The arc lamp dates, as a discovery, back to the time when Humphry Davy found that an electric current completed by two pieces of carbon gave rise to an “arc” of intense light at the point of junction. This discovery waited for the invention of the dynamo to make it a commercial proposition by enabling electricity to be produced in (then) large quantities by mechanical power. The arc lamp, giving a light of several hundred candle power, was used for the illumination of large spaces, such as railway stations, streets, halls, docks, storerooms, and so on. Being unsuitable for domestic use the arc lamp was unable to do more than touch the fringe of the lighting world. Inventors saw clearly that the next wave of progress would come only when the “sub-division of the electric light” was achieved.

The first approach to success was made by using glass bulbs with a filament of platinum in a vacuum. The filament, owing to its resistance to electric current, became white hot when electricity was passed through it. Platinum, however, has the disadvantage of melting when the presence of the electric current rises, and it was to carbon that experimenters next turned their attention. Edison searched the world for a vegetable fibre which would serve his purpose, and chose bamboo; he then worked on the more scientific system of making a carbon filament, and the two pioneers reached their goal at about the same time.

The carbon filament lamp made electric lighting possible in houses, shops, restaurants, and other places where powerful units of light were not appropriate. Today comparatively few carbon lamps are made, and these only for special purposes. The general field of usefulness occupied by the carbon lamp was captured about ten years ago by the metal filament lamp which, as we shall presently see, has ousted the arc lamp as well from its century-old heritage.

Even the early inventors of carbon lamps regarded carbon as a *faute de mieux*, and included in their patents a number of metals which, by their physical properties, promised to give better results. Tantalum and tungsten were the most attractive, as they had high melting points and the high resistance to electricity required to make them glow brilliantly when traversed by a current. Tantalum was the first to become a commercial suc-

cess; it could be readily drawn into extremely fine wires with the strength of steel. Tungsten presented a more difficult problem, because it was obtainable only in the form of a fine powder, and it seemed hopeless to attempt to work it up into a tough filament.

The attempt, however, was well worth making, because, while tantalum lamps were twice as efficient as carbon lamps, tungsten lamps would be three times as efficient. The first plan adopted was to mix the tungsten powder into a paste with a binding material, squirt the paste through a diamond die, and burn out the binding material, leaving a more or less coherent thread of tungsten. Lamps made on this plan were very economical, but they were fragile, and a great improvement took place when, after prolonged and costly research, a way was found for actually drawing tungsten into wire. By compression, by extreme heat, and by vigorous hammering, the powder is made to cohere into a solid mass which can be drawn into filaments of almost invisible fineness.

Drawn Tungsten Filaments.

The rate of advance was almost embarrassing to the practical man—in this case the maker of lamps. He had first to scrap his plant for making carbon lamps and install plant for squirted filaments; within a few years he had to scrap the new plant and replace it with machinery for drawing tungsten wire and building it up into tungsten lamps of the modern type.

The net effect of this rapid progress was that the user of electric light got a lamp which was at least three times more efficient than the old carbon lamp. In point of fact the nominal efficiency of the carbon lamp was seldom reached in average practice. As Mr. Scott Ram, the electrical inspector to the Home Office, points out in a recent report, carbon lamps absorbed something like five watts of electricity per candle power, instead of between three and four, as the rating usually went. Tungsten lamps take a little over one watt per candle, making the real saving nearer five than three.

The secret of this higher efficiency is the high temperature at which the tungsten filament can be run. Realising this fact, the makers of tungsten lamps had no sooner perfected them as a commercial article than they set inventors to work on the task of securing conditions under which filaments could be kept at higher and still higher temperatures without rapid disintegration. The limit having already been reached with filaments in a vacuum, the plan was adopted of introducing a little inert gas into the bulb.

High Efficiency Lamps.

Nitrogen was first tried, and gave very promising results; later on argon was found to be more effective; and to-day there are hints that helium may be a still better medium. The practical effect of the atmosphere of inert gas is that the tungsten filament will maintain itself intact although it is very much hotter than at the efficient temperature possible in a vacuum. The pressure of the gas retards the dissolution of the molecules of tungsten under the influence of extreme heat. Again, convection currents are set up in gas by the heat of the filament and carry the minute particles to the top part of the bulb, which is lengthened into a neck so that the blackening affect of the deposited particles will not obscure the light. The lengthening of the neck also aids in keeping the lamp cool, and incidentally it

affords one means of recognising a “gas-filled” lamp, as the new type is called. Another distinguishing feature of the gas-filled lamp is that the filament, instead of hanging in straight lengths more or less vertically, is wound in a small close spiral and arranged either in a horizontal circle or in a zig-zag. When the lamp is alight its high intrinsic brilliance declares its type.

The efficiency of the gas-filled or half-watt lamp is about twice that of the vacuum type of lamp. It is at present available in sizes ranging from 1,500 watts to 60 watts for ordinary electric lighting circuits, and still lower powers are made for circuits of lower voltage. In practice this means that half-watt lamps are suitable for lighting anything from a large room upwards. They have almost superseded the arc lamp, because they are less costly, are very efficient, and do not entail renewal of carbons and the other periodical attentions demanded by the arc lamp.

Thus we see that recent invention has reduced the cost of incandescent electric lighting to something like one-tenth of what it used to be. It has also simplified the problem of lighting buildings. With ordinary vacuum lamps for low candle powers (in passages and small rooms) and with half-watt lamps for higher candle powers, any kind of lighting proposition can be met with as much ease as economy.

In a further article it will be shown how these lamps can be most efficiently used for illuminating buildings of different sizes and characters, but at this point we may deal with a criticism which might perhaps be made on our emphasis upon the economy of scientific switching. If electric lamps are so very much more economical than they used to be, why trouble about incidental savings in current? The short answer is that economy is always economy. And, moreover, electricity is, thanks to the war, not so cheap as it used to be, although it has not gone up so much in price as most other things of necessity and convenience. While electricity is a perfect illuminant, and brings with it many economies, both direct and indirect, there is no sound reason for neglecting any readily available means of getting the most out of it at the least possible cost.

The Electricity Bill

Sweeping changes have been effected by the Government in the Electricity Bill by the dropping of all the compulsory powers contained in it. It would, however, have been a difficult matter to pass this extremely controversial measure in the few days that remained before the prorogation had drastic steps not been taken, and a member who played a leading part in moulding the Bill in the House of Commons remarked that the Government had undoubtedly come to a wise, if rather startling, decision in determining to carry as much as possible of the scheme this session. It is thought in official quarters that the deleted portions of the Bill are not to be regarded as permanently scrapped, but the working of the limited scheme is to be carefully watched, and it is stated that the Government may bring forward next year further proposals in the light of the experience which will then have been gained. In view of its far-reaching and revolutionary proposals, the further course of the Bill will no doubt be closely watched by the electrical industry.

Domestic Labour-Saving Equipment. I.—Gas

By N. M. RAMSAY

EVER since Murdock in the last decade of the eighteenth century lit up his house with gas, its usefulness in the home has been recognised; but, like many other good things, it needed a war to make us realise many of its potentialities. By using gas in place of crude oil for fuel we are not only helping to conserve the coal so vitally necessary for our industries in the future—for by the process of distillation at the gas-works it is possible to bring into effective use a considerably higher proportion of the potential heat of the coal than by consuming it directly—but we are at the same time helping to attain the ideal of smokeless towns and cities.

During the war the public were advised to use gas wherever possible, because several of the by-products of its manufacture—particularly toluol and benzol—were required for the manufacture of high explosives. Now munitions of war are no longer required, but there is a peace time demand for the same by-products for use as a motor spirit and for the newly developing British dye interests; and here let us take the opportunity to remove a widespread and foolish misunderstanding of this advice which arose during the war. "Use gas instead of coal wherever possible" does not mean "Use as much gas as possible." No form of extravagance helps the nation or the individual. The request of the Ministry of Munitions during the war, and the advice of scientists now, means "Use such coal as you must use in its purified state—that is, use gas from the coal which has been treated at the gas-works, and do not instead convert your domestic hearth into a clumsy, dirty, and wasteful gas-works day by day."

Let us see for what domestic service we can rely upon gas, and how we can obtain from it the best it is able to offer.

Lighting.

Its soft, mellow light, accompanied by a high degree of luminosity, make gas a desirable lighting agent, and recent inventions have rendered it a highly convenient medium for this use. The incandescent mantle now in universal use is supplied either in connection with an "upright" or "inverted" burner. The latter is generally preferable, as it is more efficient and casts its light downwards in the direction where it is required; the mantle of the inverted burner is also more durable, as it is attached to a solid ring. These mantles are made in three sizes, large, medium, and bijou, and their consumption of gas per hour is approximately $4\frac{1}{2}$, 3, and $1\frac{1}{2}$ cubic feet respectively. Their illumination under favourable conditions is 90, 60, and 30 candle-power. Both forms of burner can be fitted with a by-pass, a small permanent jet of flame, by means of which the burner can be lighted without applying a match. It is also possible to light the burners by means of a switch, the point of control being placed wherever it is most convenient, as in the case of the electric light switch.

Warming Rooms.

The open gas fire, unlike the closed stoves of the Continent, is an open fire, cheerful and bright and glowing—a desirable thing in our grey, cheerless climate. The coal fire has its peculiar attractions,

and, despite the labour it causes and its want of cleanliness, it will probably be used in many sitting-rooms where continuous heat is required. But in all rooms used only for a few hours daily, and where it is desirable to raise the temperature rapidly at a moment's notice, the gas fire is particularly appropriate.

For use in bedrooms a fairly large gas fire is desirable, so that the room may be quickly warmed. The large size of gas fire is usually fitted with duplex burners, so made that a tap of dual control allows either the whole or part only of the burners to be used. A gas boiling ring is often attached to the gas fire, either on the top or at the side or underneath as a swing "trivet." If not, it is desirable to have one fixed independently in the hearth. This ring serves to heat water for washing, boils the kettle for early morning tea, and is invaluable in case of sickness, as it renders the sick nurse practically independent of the kitchen.

The Children's Quarters.

For the nursery, since continuous heat is required, a smaller size of gas fire is suitable; here again the gas ring is particularly useful, and the whole, including the burners, should be fenced in by a high fire guard, for it must never be forgotten that the gas fire is not a stove, but an open

fire. Here, as in the sick room, the temperature needs to be carefully watched, and the sudden changes of our fickle climate guarded against. The gas fire is nicely adjustable, and can be arranged to give exactly the amount of heat required. Another useful, indeed necessary, piece of apparatus for the nursery is a gas iron. With this, and the gas ring for boiling water, nurse is able to launder many of the little garments, and simple nursery dishes can be prepared, especially at the time of weaning young children, thus saving many journeys to and from the kitchen, and frequently saving the expense and worry of a nursery maid.

Hot Water.

In the bathroom, if it is large, a small gas fire is useful, and an instantaneous water heater will ensure really hot baths at a moment's notice at any hour of the day or night.

Varied Uses for the Fitted Bathroom.

It is never desirable to use a bathroom for other purposes than bathing, but in these days of unavoidable overcrowding it is often necessary to break the general rule. Owing to the excessively high charges of the public laundries and their rough destructive work, it has become the custom to wash all delicate fabrics at



THE ALL-GAS KITCHEN.

come, and frequently this work is done by the ladies of the house, or by trained nurses or governesses. In town houses there is often no provision for laundry work, and if no other room is available the bathroom is perforce brought into use. This is easily adapted; a table for ironing and folding clothes can be simply fastened to the wall by hinges; or if the bath is covered with a wooden lid sufficiently raised it serves the same purpose. The necessary gas fittings for such a bathroom could include the open gas fire with ring and a gas iron; a fitted sink with hot water tap is usually a bathroom fixture. If a separate room is available its fittings for laundry work would be completed by the addition of a small gas-fired copper, and a long trestle table for folding and ironing would take the place of the bath with its cover. Such a room would be a great boon to the permanent residents in hotels and boarding-houses. The gas could be measured by an independent prepayment meter; it would then be paid for as it was used, and waste by carelessness or dishonourable residents would be checked.

The Occasional Rooms.

For all rooms in the house used only for a short period during the day, such as the billiard room, library and music room, or the parlour of the working-man's house, the gas fire is particularly suitable. It is desirable to have large fires installed so that the room may be quickly warmed and ready for use; the gas may then be turned off and the temperature maintained. The question of the general drawing- or sitting-room is not so easily decided. When this room is in constant use the coal or log fire is appreciated and, to the householder, its first cost is less than gas, though if the expense of extra labour entailed, as well as the laundry and cleaners' bills, and the extra wear and tear of all fabrics such as carpets and upholstery be taken into full consideration, it is doubtful whether there is the long run any material saving in a

well-furnished house. On the other hand, if the room is mainly for ceremonial use, to receive occasional visitors or for piano practice, the gas fire is clearly indicated, if only to prolong the life and maintain the quality of the piano.

There is another type of sitting-room which requires separate consideration—that of the bachelor man, or the bachelor woman, who does his or her own cooking, or, indeed, of any small household, say, in furnished or unfurnished lodgings, where the only room for cooking is the sitting-room. For such a room a special grate has been designed which consists of the usual area flat fire, and over this a

chamber in which a fowl can be cooked—an inter-oven; on the top of this is a boiling jet. The whole provides ample facilities for cooking a simple meal, yet it does not detract from the general appearance of the room—it remains a sitting-room.

The Kitchen.

As for the gas apparatus used in the kitchen, it is unnecessary to dwell on the gas cooker; it has established itself as the most economical, efficient, and convenient instrument for general cooking. It will serve alone, but in many kitchens it is used in conjunction with the coal range. Its usefulness is especially felt in summer, when it is not necessary or desirable to have a coal fire, but it is by no means necessary to have a coal fire in winter, for the gas cooker, combined with an open gas fire, will meet all requirements and effect at the same time a considerable saving of labour. Except on the most bitter days, and in particularly cold houses, the fire need not be turned on while the person responsible for the cooking operations is bustling about. But it is of inestimable benefit in the early morning and for odd hours off duty in the evenings.

The Refuse Problem.

A very useful addition is the gas-fired incinerator or rubbish destructor. By means of this it is possible to cremate in a clean and sanitary manner all the house and kitchen refuse *in situ* instead of collecting it in the dustbin to become a prolific breeding ground for flies.

The Divorce of Cooker and Water-heater.

Attached to the kitchen coal range is usually a boiler for heating water, and so long as the kitchen fire is kept going there is a certain amount of hot water available. But the supply is limited, and when a succession of hot baths is required it generally proves inadequate, whilst, of course, the supply stops altogether when the fire is allowed to go out. Moreover, it is not possible, as a rule, to use the heat of the range for cooking and water-heating



THE GAS WATER HEATER.



THE GAS WASH COPPER.

simultaneously. The circulating boiler meets this deficiency. It is a compact and simple piece of apparatus which can be fixed in any convenient position in the kitchen and easily connected with the existing hot-water pipes. It has the additional advantage that it can be so arranged that in winter months, when the kitchen fire is kept burning, it need only be used to supplement the range boiler, but in summer when a fire would make the kitchen very uncomfortable, it can be used

alone. With this circulating boiler an ample supply of hot water is assured at all times. Where a circulating system is not possible, various other methods are now available, while the instantaneous water heater of the geyser type is invaluable.

These are the principal methods of using gas, but new spheres of usefulness are being constantly opened. It remains for architects and builders to recognise its possibilities and to make provision for its utilisation in their building plans. A con-

siderable amount of trouble and expense is saved if, when a house is being constructed, gas pipes are run and points fixed wherever they may possibly be required, even though there is no immediate need for them, and it is particularly important to insert carassing pipes of ample size to convey all the gas that may eventually be required to meet all possible needs. If for no other purpose than serving a gas boiling ring it is desirable to have gas at hand.

2.—Electrical Apparatus

ELECTRICAL engineers have advanced so far in adapting electricity to the house that to-day the architect is able to consider the adaptation of the house to electricity. At present artificial light and warmth in the home entail the provision of cable or pipe for electricity and gas; suitable entrance and cellar or storage for coal and coke, accommodation for ash and for its easy removal, and most important and universal of all, the construction of fireplaces, grates, and chimneys; the latter accounting for some considerable proportion of the cost of the building and profoundly influencing design by reason of the necessity for placing them correctly in regard to walls, and to the convenience and use of the occupiers.

Given a complete service of electricity for lighting, for all heating and cooking, and, in addition, through this medium the ability to introduce into the house a form of mechanical power needing no skilled attention, and we at once open up possibilities as fascinating to the architect as to the occupier. As some householders have already achieved the all-electric home, and many occupy intermediate stages in the conversion from older methods, it may be of interest to review briefly the practicable possibilities of appliances and methods obtainable at the present time.

Lighting.

It is not necessary to enlarge upon the advantages of electric lighting, but desir-

able to remember that its development continues to be rapid. Every year offers some new possibility in convenience or beauty, and the more liberal use of light made possible by the very efficient types of lamp now in use enables attention to be given to indirect methods of lighting, diffusing glassware, etc., allowing a latitude in the choice of fittings and arrangement which renders the provision for artificial light one of the most important and successful features of home decoration.

Methods of wiring have changed rather towards greater simplicity, and several systems are now in use which permit of electrical work or alterations to be carried out with little, if any, damage to decorations or disturbance of an occupied house. These are most valuable, particularly as the use of electricity for purposes other than lighting increases, and the fact that the original wiring provision is insufficient should not deter the householder from extending his installation or lead him to fear costly upheaval of his rooms when additional circuits are needed.

For reasons generally understood now, it is usual for suppliers of electricity to charge for energy used in heating, cooking, or machine-driving at a rate much lower than that imposed for lighting. In some districts special and convenient tariffs are in use for domestic work, based usually upon some yearly or monthly fixed charge with the addition of a low rate per unit for electricity used, irrespective of its

purpose. They have the advantage of requiring only one meter and permit the use of electrical apparatus at any point or from any lampholder or plug socket where the wiring is of sufficient capacity.

Heating.

Occasional heating by means of electricity has been in favour for many years, the earliest stoves being of the convector class, in which wires raised to a moderate temperature were employed to set up currents of warm air. When, however, the makers of electric lamps produced a large bulb form of heater, practically an elongated lamp of frosted glass containing a carbon filament run at red heat, this radiant method of electric heating became very popular on account of its cheerful effect and independence of the temperature or movement of the surrounding air.

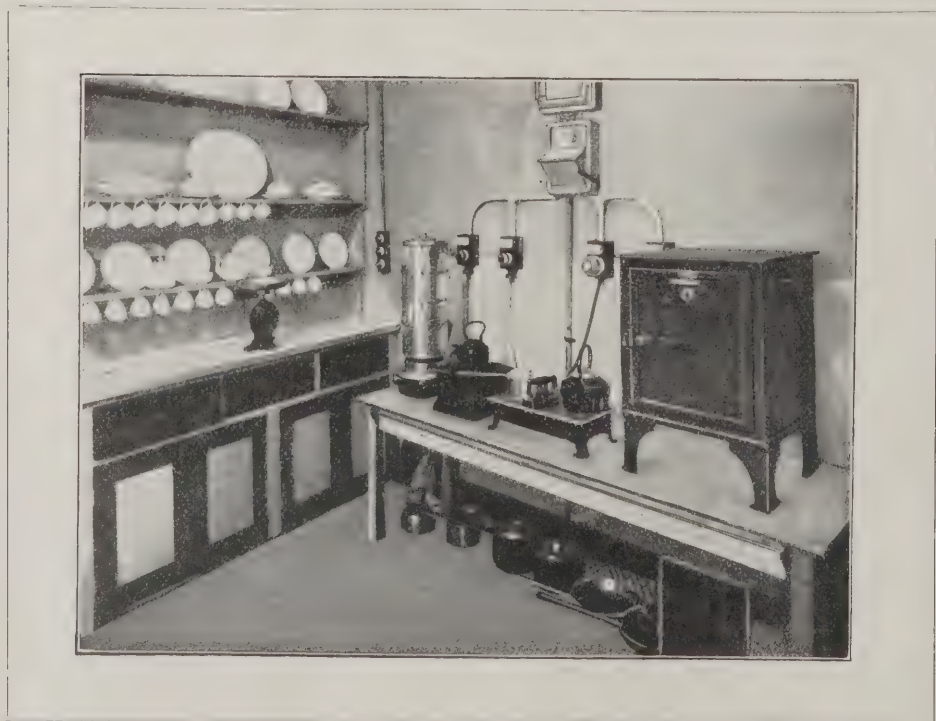
After a long period of use this type has given way to the more modern electric stove, in which wires of a special alloy are raised to bright redness and generally mounted on a backing of refractory material, the result being an extremely efficient and attractive stove in which the electrical energy is transformed into radiant and convected heat, the former predominating.

Where by reason of the size of a house or the rigour of a climate central heating is in vogue, it is now worth while to consider the latest developments of electric heating in conjunction with the main scheme; it is possible to provide the cheerful fire effect, and even to arrange for automatic regulation of the electric stoves, so that a uniform temperature can be obtained under varying conditions of weather and use, and in this way the central heating can be supplemented and the weaknesses of that system overcome.

Cooking.

The use of electricity for cooking food is really one of the earliest of its domestic applications, apparatus having been produced and used many years ago, but the development of the work was retarded by the unsuitability of the materials then obtainable; recent research has, however, resulted in the production of alloys which can be maintained at a high temperature in contact with the air without appreciable deterioration. The complete electric cooking range, as now used for general household work, comprises a radiant grill, hot plates or boiling discs and oven, the whole combined into a compact apparatus, sometimes also including plate-warming compartments and some form of urn or rapid water boiler.

The ability to place this apparatus in any position without foundation, brick-work or flue, and with no permanent connection to the structure beyond a pair of cables, is often the deciding factor in the



ELECTRIC COOKING APPARATUS IN THE MODERN KITCHEN.



LIGHTING WASTE AND EYE-STRAIN.

use of electric cooking. The much-discussed saving in the weight of meat which follows from electric roasting has now been proved by many, and has an enhanced meaning at present food prices.

A large proportion of the heat or fuel used for cooking and housework goes to the production of hot water or the warming of liquids; electricity provides for this in several ways. The familiar and convenient electric kettle, with heating element self-contained, offers a very high efficiency, and the ability to procure small quantities of boiling water in a few minutes at any part of the house has created a big demand for this utensil, which is now produced in great quantities and in standardised patterns.

Heating Water.

The larger problem of heating water in quantity is dealt with by means of apparatus of the geyser type, in which a considerable amount of electric power is taken over a short period, or by a system of heat storage. Broadly, the apparatus consists of a heat insulated tank, in which a mass of water is stored and heated over a long period, being drawn off in quantity as and when required. Several ingenious methods have been devised for keeping the water used up to a certain temperature, and making it impossible to exhaust the store or draw upon it to such a degree as to deliver water below the heat required; the working efficiency of these appliances



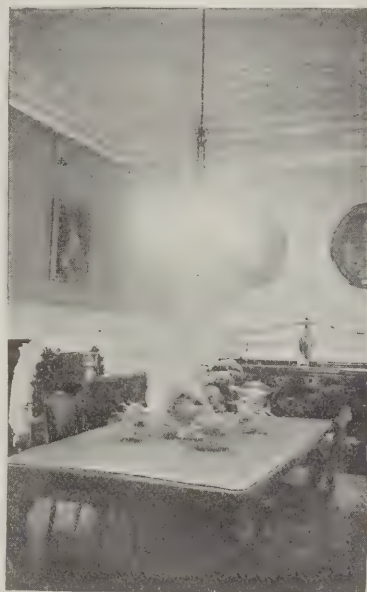
ELECTRIC CLOTHES WASHER AND WRINGER.

is high, and further development of this principle, the use of electricity in a small continuous stream and the storage of its energy in the form of heat, may be expected.

Miscellaneous.

For the simple work of applying heat to any ordinary vessel containing liquid, electricity provides the hot plate or boiling disc, a feature of most electric ranges, and also a convenient appliance which may be obtained separately and used from any lampholder or electric connection.

Hot plates are of two classes, the black and solid plate, in which a flat disc of metal is heated by contained elements similarly to the electric flat iron; it is essential, for efficient use, that the saucepans or other utensils should have a clean and flat surface permitting close contact with the hot plate. Latterly a type of radiant disc has been introduced, practically a hori-



INTERIOR LIGHTING WITH MODERN REFRACTING SHADES.

zontal form of electric fire; it operates by exposing the utensils to the radiation from red-hot wire elements backed by a reflecting surface. In this case it is desirable that the surface of the pots should be black, but flatness is no longer essential. The radiant boiling disc is a most convenient accessory, enabling a variety of small operations to be carried out with the ordinary appliances of the household.

The first introduction of electric power to the home probably came with the portable fan which has been in use for many years; the ability to provide small rotary machines which will operate without attention has opened up the possibility of introducing many labour-savers into household work and created a new field for the mechanical engineer. To-day there are in regular and practical use a number of types of vacuum cleaner, clothes, and dish-washing machines, and also devices for cleaning boots and silver, cutting vegetables and refrigerating and other work where a simple and ever-ready form of driving power can be adapted to save labour and time. All these appliances operate with a very small expenditure of energy, and their increasing use in household work is



LIGHTING ECONOMY AND EFFICIENCY.

assured. The broad feature of the electrical method is, to put it briefly, that work is performed with ease and comfort with little preparation, and when completed does not leave the troublesome and laborious series of clearing up jobs so particularly associated with the use of fire and of older hand-labour methods.

Current.

Supply companies are now so numerous that electric current is available nearly everywhere; and if the provisions of the new Government measure are ultimately realised (which at the moment is doubtful, the Bill having been somewhat severely dealt with in the House of Lords, and most of its ambitious proposals negatived, temporarily, at any rate) current should be much more generally at the disposal of the community than it is at present. The Electricity Commissioners, who can, and no doubt will, still be set up under the shorn Bill, will have quite enough work to do till the remainder of the scheme is put through Parliament. The Commissioners will devote themselves to dividing up the country into suitable areas, seeing whether these areas are properly supplied with electricity, and holding local enquiries. It is stated that they will still have no less a sum than £20,000,000 to spend on providing electrical undertakings. Obviously, the prospects of electrical development in this country are very considerable.



INTERIOR LIGHTING WITH MODERN REFRACTING SHADES.

Royal Institute of Architects of Ireland

The annual general meeting of the above body was held on December 18, with the President (Mr. W. Kaye-Parry, F.R.I.A.I., in the chair. There was a fair attendance of registered members. The President stated that, as a result of the ballot, the following were elected Members of Council for 1920: Messrs. J. H. Webb, F. Hayes, R. H. Byrne, F. G. Hicks, A. G. C. Millar, E. Bradbury, R. M. Butler, G. L. O'Connor, S. M. Asklin, together with Mr. Geo. F. Beckett representing the Architectural Association of Ireland.

The Honorary Secretary (Mr. H. Allberry) read the report of the Council for the past session.

The report stated that Members number ninety-seven; there were also two Hon. Fellows, one Hon. Member, and six students, making a total of 106, compared with eighty-eight last year. The American Institute of Architects have sought assistance towards the exhaustive analysis of the conditions affecting the practice of architecture, which the former are now making. A prize of £10 10s., offered by the Institute to the Members of the Architectural Association of Ireland has again been offered for competition in the present session. The Council note with satisfaction the ever-growing utility of the Architectural Association. The attention of the Irish National War Memorial Committee has been drawn to the desirability of instituting a competition before a design is selected. It is now understood that the committee intend to pursue this course. A number of architects in Cork are proposing to form a local society as a branch of this Institute. Membership of the Society is to be confined to registered members of the Institute. In view of recent developments in Belfast the Council are considering the practicability of establishing a branch of the Institute on similar lines in the North of Ireland.

Mr. P. J. Lynch, in proposing the adoption of the report, said that it disclosed a record of hard work attended by highly satisfactory results. The increased membership was an encouraging feature. A great step in advance had been achieved in the work done in obtaining a standard of efficiency for those employed in housing schemes throughout Ireland. He joined in the tribute of the incoming President (Mr. Lucius O'Callaghan), who, like his father, was an architect of great skill and scholarship. Mr. C. Hoffe Mitchell seconded, and the report was unanimously adopted.

The retiring President (Mr. W. Kaye-Parry) read his valedictory address, in which he referred to the lifting of the war clouds, and the promise of a restoration of trade and the rehabilitation of the peaceful arts. These were assured if all classes recognised that success must depend upon strenuous exertion and zealous endeavour. "The future of the nation," he proceeded, "is in the melting-pot, but, as we have helped to win the war, it is unthinkable that we should be denied the harvest of a victorious peace."

"The Joint Council of Executive Professions, recently constituted at the suggestion of the President of the Institution of Civil Engineers of Ireland, is a welcome augury of improved and more harmonious relations between architects and civil engineers in the future. There is no

necessity for any jealousy between two bodies of men, both engaged in constructional work. Architects can co-operate advantageously with engineers, and the latter can seek inspiration in aesthetics from their architectural brethren. All that is wanted is that both should realise their limitations. Human life is far too short to enable any one man to be a master of every branch of the art and science of construction, and co-operation is becoming daily more necessary to grapple with the multitude of problems which are embraced in the blessed word 'reconstruction.' When architects know that a cottage which was built for £218 in 1904 will cost £677 in 1920 they will recognise that the altered conditions necessitate the adoption of many kinds of improved methods of building. As the industries of our country are developed, the architectural profession will find profitable occupation in erecting homes for the workers, and public buildings for a wealthy and prosperous nation. Before long we shall be doing on a smaller scale what is already being done on an extended scale in England, namely, providing in one centre three thousand houses with electric light, electric cookery, hot-water heating, and a hot-water service all from one central station."

The President concluded with an expression of deep gratitude to the honorary officers and the Council for the invaluable assistance they had given him in his efforts to guide the destinies of the Institute during his presidential period.

Mr. R. Caulfeild Orpen and Mr. A. E. Murray, on behalf of the Institute, thanked the President for his admirable address, and for the services he had rendered to the Institute during his three years of office.

Scottish Housing and Small Holdings

In a circular issued to local authorities the Scottish Board of Health give particulars, which the Board have received from the Treasury, of the rates of interest to be charged for loans granted out of the Local Loans Fund subsequent to November 21, 1919. The rates of interest are as follows:

Loans in respect of subsidised housing schemes: (1) Loans to local authorities secured on local rates, any period, 6 per cent.; (2) loans to public utility societies as defined by the Housing Acts, 1919, limiting their profits to 6 per cent. per annum (subject to income-tax), not exceeding fifty years, 6 per cent. Provided always that for the present there shall be included in the mortgage in respect of any loan in respect of a subsidised scheme, a condition that the above rates are provisional only, and may be revised when permanent rates can be fixed, such revised rates to run from the commencement of the loan.

Loans in respect of schemes not receiving subsidy under the Housing Acts: (1) To companies and private persons limiting their profits to 6 per cent. per annum (subject to income-tax), not exceeding thirty years, 6 per cent.; not exceeding forty years, 6¼ per cent.; (2) To companies and private persons not so limiting their profits to 6 per cent. (subject to income-tax), not exceeding thirty years, 6½ per cent.; not exceeding forty years, 6¾ per cent.

Loans to local authorities for any purposes of the Small Holdings Acts, any period, 6 per cent.

Correspondence

Unity in the R.I.B.A. (!)

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I was delighted to read the letter signed "F.E.D.U.P." in *THE ARCHITECTS' JOURNAL* of December 17. There is undoubtedly great discontent among the Associates. We seem to spend our time quarrelling over purely domestic detail and our Council must have devoted many hours to these highly controversial matters. The result is that we have slipped from our former high position among learned societies. Take town-planning as an example; we obtained our charter for work in connection with "the public improvement and embellishment of towns and cities," and what has recently happened? The Government has adopted the improvement scheme of the London Society, and the R.I.B.A. is out in the cold. There is not the slightest doubt that the excellent and well-managed London Society is already a far more important body than the R.I.B.A., both in Parliament and elsewhere.

I am surprised to hear that some foolish persons are advocating admitting the Society of Architects into the ranks of the R.I.B.A. Only a few years ago one of the largest meetings ever held at Conduit Street condemned the proposal *nem. con.* Of course, if the suggestion should materialise it would be killed again. Our Associates are quite firm on their principles; if men want to join the R.I.B.A. let them come in as we did, by the front door of examination and not by the back stairs. But to those in favour of the idea I say, "Have you considered that even if the amalgamation were carried out what the result would be?" The answer is, further discontent and another cause for dissatisfaction, unrest, and disunion. My sympathies are entirely with our Council; their work must be so fettered with unpleasant domestic matters that they cannot get on with national work; and then we blame them!

Can we not have some meetings at Conduit Street to consider the reasons for unrest among our members? Let us try to remove the cause in each case, and get unity in our ranks; at present we are a house divided against itself.

ALSO FED UP.

Concise Costing for Housing.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The system for quantities advocated by Mr. Sumner Smith would reduce the amount of preliminary work required to be done by the builder, and so help him to devote more attention to his special work, i.e., to erect buildings to plans, efficiently, economically, and expeditiously.

I presume that the quantities of materials used would be checked on the completion of work by reference to the invoices; this being so, one would like to ask Mr. Smith how he intends to obviate being charged for materials used caused through unnecessary waste.

Most builders are now convinced of the necessity for an efficient system of costing. In the past many of us have been satisfied with gross costings. These do not give sufficient information, and after thoroughly studying the subject one finds that detail costs can be obtained with very little extra labour. I have found it most convenient to deal with them in two parts—shop costs and site costs.

H. L.

THE ARCHITECTS' JOURNAL.
WEDNESDAY, DECEMBER 24, 1919.

THE

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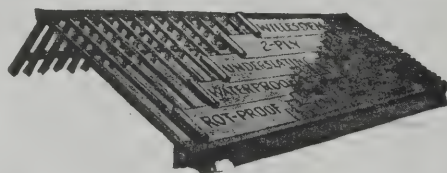
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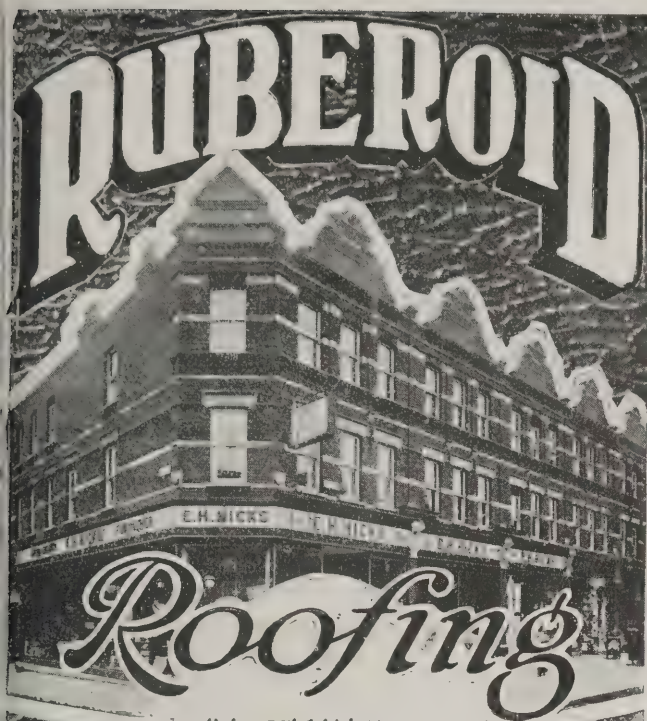
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CONTENTS.

	PAGE		PAGE		PAGE
Fame and the Architect. By E. Beresford Chancellor ...	766	British Engineering Standards ...	789	ILLUSTRATIONS:	
Notes and Comments: The Prime Minister and the Building Industry; National Housing Campaign, 766; Dissension and the Remedy; Wooden Railway Platforms; Sir Aston Webb and St. Mary Abchurch: Our Edition de Luxe ...	767	Training the Ex-Service Man ...	789	Compositions by Bouchet (VIII.).	76
Architectural Causerie. By Aero ...	768	The War Graves ...	790	Palazzo Branzo—Loschi—Folco, Vicenza. Scamozzi, Architect	76
Town Planning in 1666 ...	771	Arc Lamp Carbons and Gas Mantles	790	Models of Designs for the Proposed Zeebrugge Memorial, Now on Exhibition at the R.I.B.A. Galleries. First Premiated Design. M. Joe Smolderen, Architect. M. Dupont, Sculptor. Second Premiated Design. Thomas S. Tait, A.R.I.B.A., Architect. W. Reid Dick, Sculptor ...	76
Acoustics of Churches: Choral Music. By H. Bagenal, A.R.I.B.A.	772	News Items: Limehouse Hostel for Sailors; Brampton; Clock Tower for Stockwell; Clacton War Memorial; New Park for Coventry; Harrow War Memorial; Montreal's First Skyscraper; Engravings for the R.I.B.A.; Municipal Aerodrome at Durban; L.C.C. School of Building; The Subsidy to Builders; Non-Ferrous Metals; L.C.C. and Electricity Supply; Brussels Commercial Fair ...	791	Barry. Garden Suburb. Glamorgan. T. Alwyn Lloyd, Architect. J. A. Hallam, Deputy Architect. Lay-out of First and Second Portions of Estate, 772: Pair of Typical Cottages	77
The Plates Described ...	777	Town Development and Housing: Poplar; Campbeltown; Girvan; Pyrford; Acton; Renfrew; Beckenham; Richmond; Horrabridge; Rutherglen; Clydebank; Deptford; Walsall; Beeston; Exmouth; Burnham-on-Sea, 791; Rhondda; Paisley; Gatehead; Coventry; Thornbury; Sheerness; Birmingham; Roehampton; Bermondsey; Shrewsbury ...	792	Design for a University Assembly Hall. By W. Dougill (Liverpool University) ..	77
Correspondence: Concise Costing for Housing; R.I.B.A.: Suspension of By-laws ...	778	Our Small Advertisements ...	792	Modern Farm Buildings for Small Holdings: Cow House for Fourteen Cows, with Feeding Passage, 780; Buildings Suitable for a Small Fruit Farm ...	78
Small Holdings: Their Construction and Equipment ...	783	Trade and Craft; Economic Building Corporation, Ltd. ...	792	An Economical Cottage for Small Holdings ...	78
The Need for More Care in Warehouse Design ...	784	Weekly Housing Report ...	792	New Premises for the Gosport Gas and Coke Company, Gosport. H. Austen Hall, F.R.I.B.A., Architect ..	78
Architects' and Surveyors' Assistants Professional Union ...	787				
War Pictures Exhibition ...	788				
New Paintings by Mr. W. Walcot ...	788				
The Surveyors' Institution ...	788				
Housing in Germany ...	788				
Government Appeal to the Building Trades ..	789				

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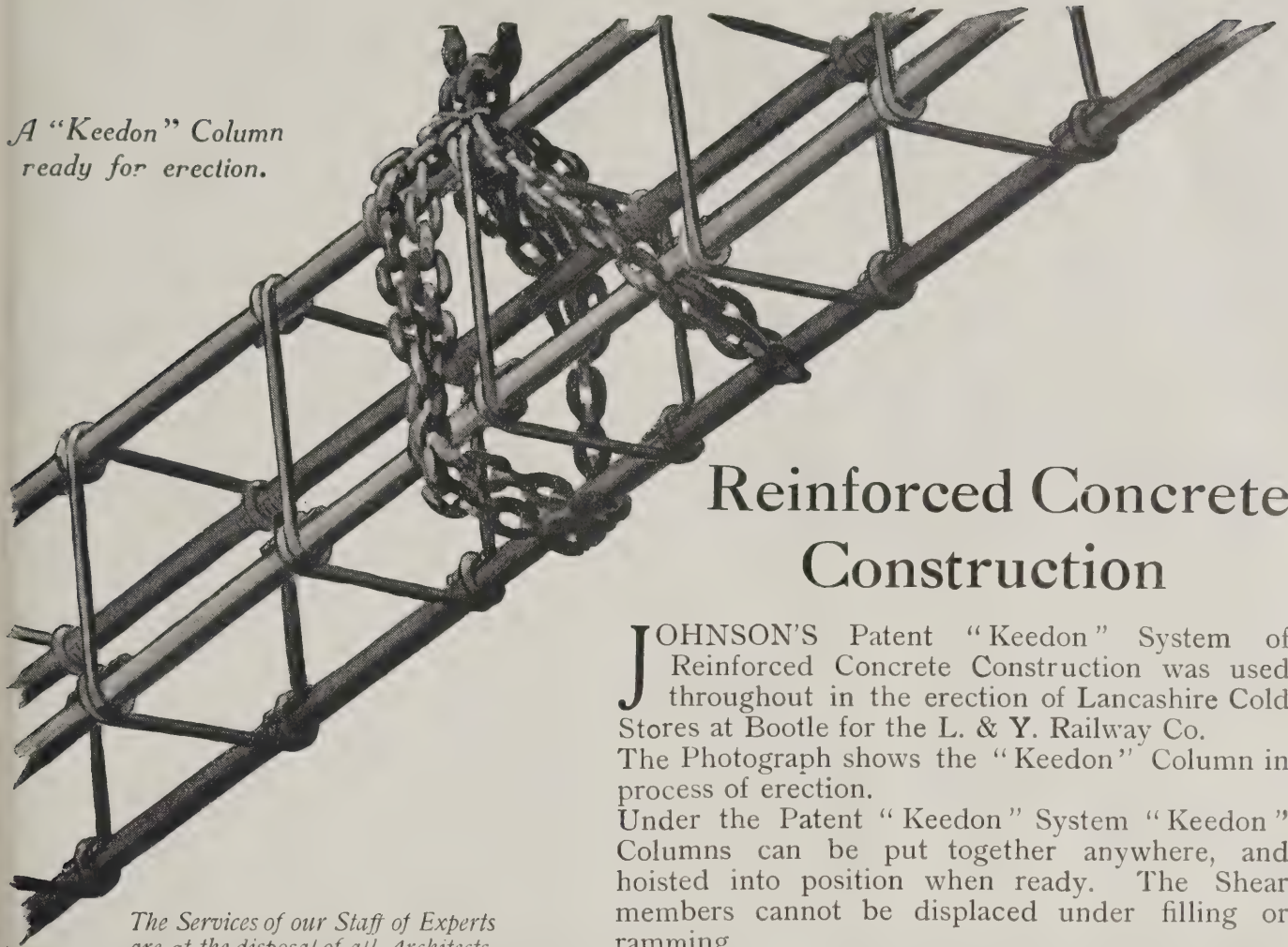
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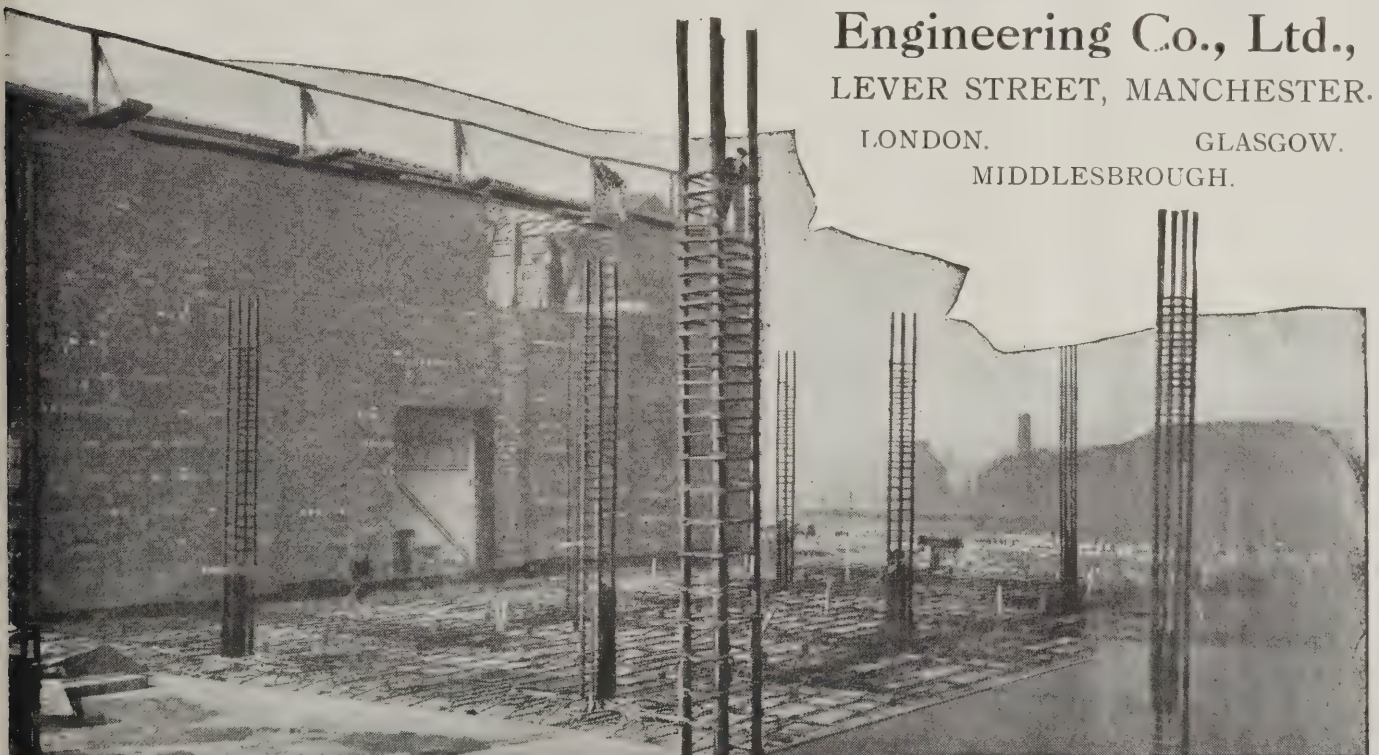
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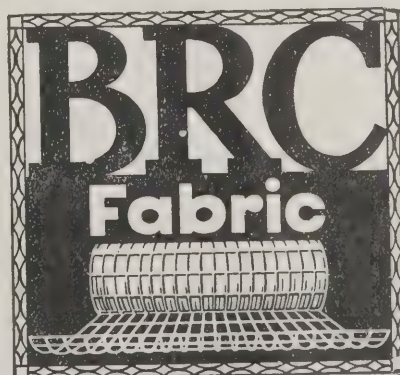
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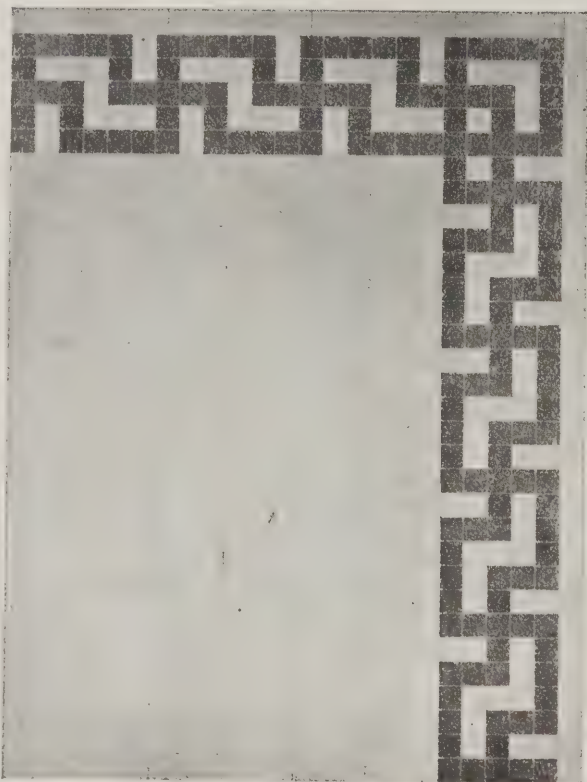
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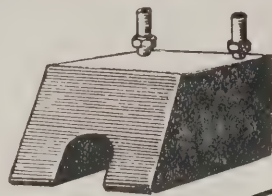
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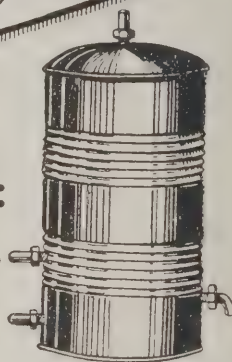


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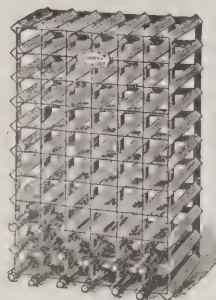
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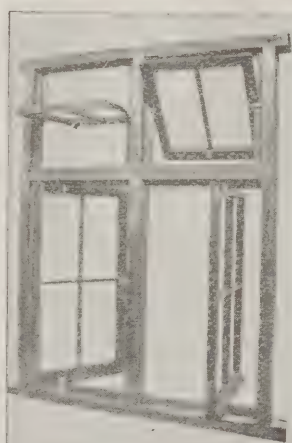
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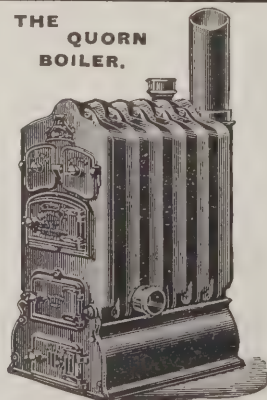
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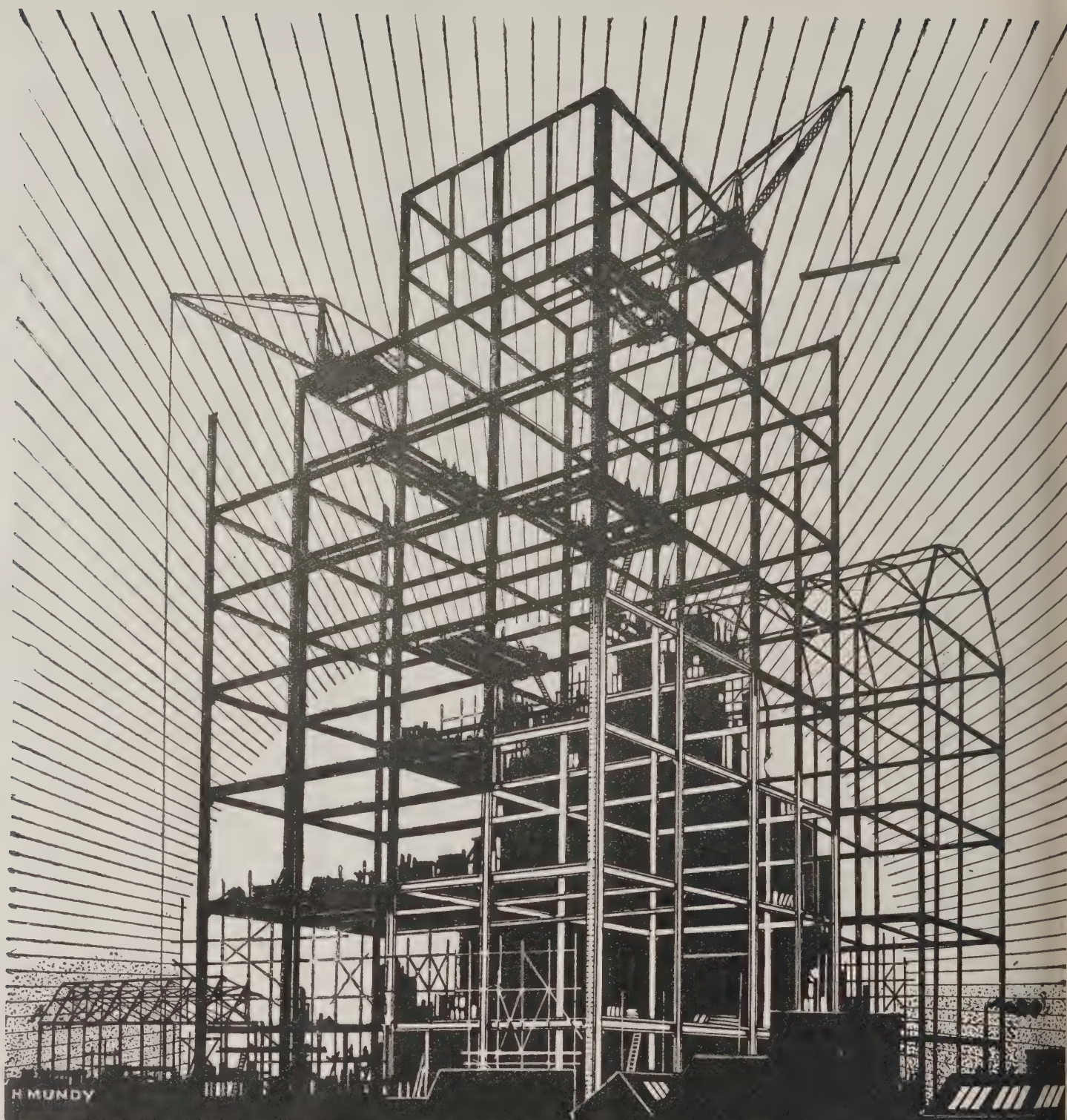
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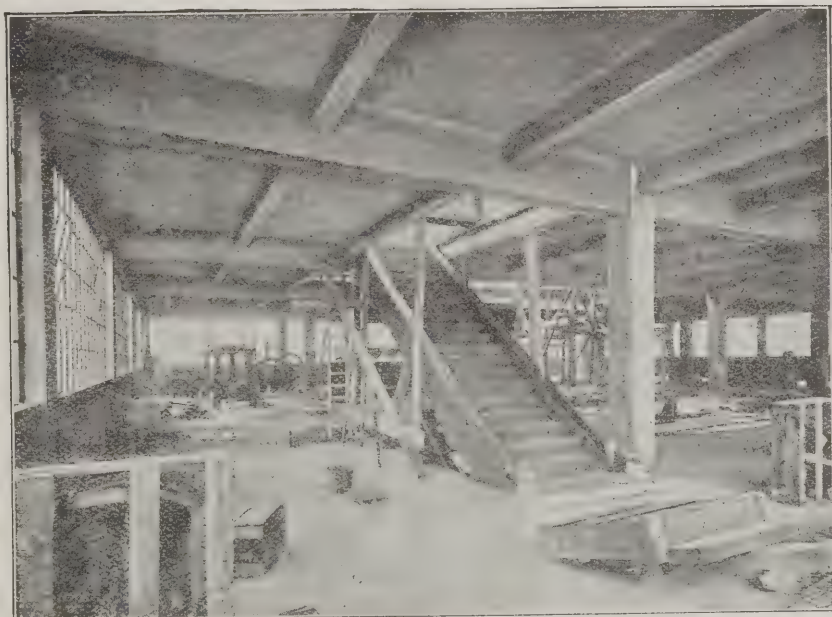


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V4.
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BUILDING.

December 24.—**HOSPITAL. Towyn.**—For Memorial Cottage Hospital at Towyn, for the Hospital Committee. Architect and Surveyor, F. Howarth, L.R.I.B.A., Towyn, Mer.

December 27.—**HOUSES. Banbury.**—Banbury R.D.C. invite tenders for erection of sixty-eight cottages in various parishes. Tenders to the Architect, Mr. T. Lawrence Dale, A.R.I.B.A., Horse Fair, Banbury.

December 29.—**HOUSES. Chichester.**—For erection of twenty houses in Chichester, for the T.C. Contractors can tender for two or more houses. Plans, specifications, etc., can be seen at the City Surveyor's office, 7, Lion-street, Chichester.

December 29.—**HOUSES. Gower, S. Wales.**—Contractors desirous of tendering can obtain quantities at the office of the Architect, Mr. Henry A. Ellis, 40 and 41, Castle Street, Swansea, on payment of the sum of two guineas. Estimates in sealed envelopes, endorsed "Housing Scheme," to Mr. H. J. Ind at the Gower R.D.C. Offices, Fisher Street, Swansea.

December 29.—**HOUSES. Blackburn.**—The Housing Committee of the Corporation of Blackburn invite tenders for the erection of additional cottages (types "W" and "X") on the Green Lane site, Cherry Tree. The total number of cottages to be erected under this tender is twenty-four, in blocks of four, and a tender may be for one or more blocks up to that total. Plans, specifications, and conditions of contract can be seen, and a copy of the bills of quantities obtained, from Mr. A. T. Gooseman, Borough and Water Engineer, Town Hall, Blackburn, on payment of a deposit of £3 for a complete bill of quantities, or £2 in the case of each separate trade.

December 30.—**REPAIRS. Burnley.**—The Commissioners of His Majesty's Works, etc., are prepared to receive tenders for the execution of ordinary works and repairs to the buildings in their charge in the Burnley district. Schedule of prices, conditions of contract, forms of tender, and all particulars may be obtained on application to the District Architect, H.M. Office of Works, New Bridge Street, Manchester.

December 30.—**HOUSES. East Grinstead.**—Tenders for the erection of fourteen houses in the parishes of Hartfield and Withyham. The houses will be built in pairs, and tenders may be for one or more pairs. Tenders to Francis S. White, Clerk to the Council, 6, High Street, East Grinstead.

December 30.—**REPAIRS. Ashton-under-Lyne.**—The Commissioners of His Majesty's Works, etc., are prepared to receive tenders, addressed to the Secretary, H.M. Office of Works, for the execution of ordinary works and repairs to the buildings in their charge in the Ashton-under-Lyne district. Schedule of prices, conditions of contract, forms of tender, and all particulars may be obtained on application to the director of Contracts.

December 30.—**OFFICES. Haverhill.**—For erection of new offices for Haverhill Council School, for the West Suffolk Education Committee. Plans and specification can be seen and form of tender obtained on application to the County Architect, Mr. A. Ainsworth Hunt, M.S.A., 51, Abbeygate Street, Bury St. Edmunds. Sealed tenders to Mr. F. R. Hughes, County Education Secretary, Shire Hall, Bury St. Edmunds.

December 30.—**HOUSES. Griffithstown.**—For erection of sixty-four houses at Griffithstown, near Newport, Mon., for the Panteg U.D.C. in accordance with plans, specifications, and form of contract, which may be inspected at the Council Offices, Pontymoel, near Pontypool, or at Offices of Architects, Messrs. Thomas and Morgan and Partners, 23, Gelliwasted Road, Pontypridd, from whom all further particulars may be obtained.

December 30.—**POST OFFICE. Petersfield (Hants).**—The Commissioners of His Majesty's Works, etc., are prepared to receive tenders, addressed to the Secretary, H.M. Office of Works, Storey's Gate, Westminster, S.W.1, for the erection of a new Post Office at Petersfield, Hants. Bills of quantities and forms of tender on deposit of one guinea.

December 31.—**HOUSES. Bath.**—Tenders for the erection of ten houses at Dolemeads. Tenders to Fredk. D. Wardle, Town Clerk, Guildhall, Bath.

December 31.—**WAR MEMORIAL. Halifax.**—For erection of "The Districts surrounding Bradshaw (Halifax) War Memorial." Dimensioned designs representing a conspicuous landmark must accompany all estimates submitted. Full particulars as to proposed site, etc., may only be had upon written application to the Hon. Secs., Messrs. Taylor and Birch, Bradshaw Mill, Halifax.

December 31.—**TELEPHONE EXCHANGE. Dewsbury.**—The Commissioners of His Majesty's Works, etc., are prepared to receive tenders, addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1, for the erection of a new telephone exchange at Dewsbury. Drawings, specification, and a copy of the conditions and form of contract may be seen on application at H.M. Office of Works, Infirmary Street, Leeds, or London (as above). Bills of quantities and form of tender from Director of Contracts, on payment of one guinea.

December 31.—**SCHOOL. Cheltenham.**—For the following work, for the Cheltenham Education Committee: Central School, Gloucester Road, erection of a handicraft building, additions to domestic science building; Gloucester Road Junior Mixed School and Naunton Park School, erection of additional lavatories. Plans and specifications can be inspected at the offices of Messrs. Chatters, Smithson and Rainger, Architects, Regent Street. Tenders must be sent to Mr. W. T. Long, Secretary, Education Department, Municipal Offices.

January 1.—**HOUSES. Rugeley.**—The Rugeley U.D.C. invite tenders for construction of 36 houses to be erected on their Sandy Lane site. Plans, specifications, and conditions of contract may be seen and bills of quantities and forms of tender obtained upon application to Mr. W. E. Rogers, Surveyor, Rugeley, upon payment of £1 1s.

January 5.—**Houses. Haverhill.**—Tenders for erection of ten houses at Haverhill. Tenders may be submitted for one or more pairs of houses, or for the whole number. Bills of quantities and forms of tender can be obtained and specifications and drawings inspected at the office of the Architect,

(Contracts continued on page xx.)

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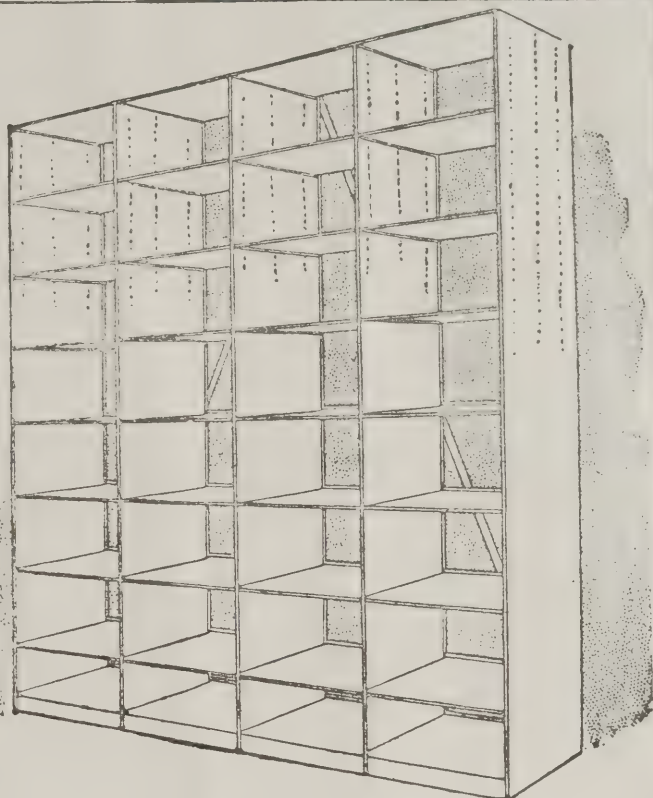
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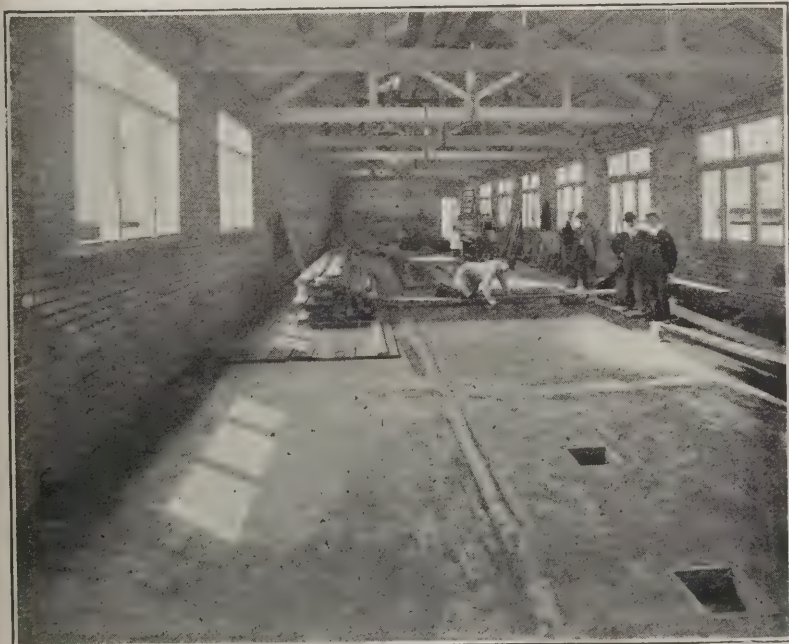


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Mr. H. Brown Thake, 10, High Street, Haverhill, upon payment of a deposit of two guineas. Tenders to James Beasley, Clerk, Haverhill.

January 7.—**HOUSES. Sevenoaks.**—The Sevenoaks R.D.C. invite tenders for the erection of twenty-four houses and making new road at Sundridge in their rural district.

January 8.—**WAR MEMORIAL. Haslingden.**—The Committee invite designs and estimates for a memorial tablet to be erected in St. James's Church, Haslingden, and including lettering for about 80 names. Designs and estimates to be sent to Mr. J. J. Hamer, 21, Radcliffe Street, Haslingden, Lancashire.

January 9.—**HOUSES. Ongar.**—Tenders for erection of 17 houses at Marden Ash, Ongar. Drawings, specifications, and conditions of contract have been prepared by Mr. Allan F. Royds, Lic.R.I.B.A., and may be seen at his Office 2, Gray's Inn Square, London, W.C.1, and at the Surveyor's Office, at the Council House, Chipping Ongar. Bills of quantities may be obtained from the Surveyor of the Council on deposit of two guineas. Tenders to Arnold Richardson, Clerk to the Council, the Council House, Chipping Ongar.

January 9.—**POST OFFICE. Henley-on-Thames.**—The Commissioners of His Majesty's Office of Works invite tenders for the erection of a new Post Office at Henley-on-Thames.

January 9.—**STORES. Enniskillen.**—For erection of new flour stores and modern bakery at Henry Street, Enniskillen, for the United Co-operative Baking Society, Glasgow. Plans, specification, and rules of quantities may be obtained on application to Mr. J. Donnelly, Architect, Enniskillen.

January 10.—**HOUSES. Droitwich.**—For erection of 12 houses in the Holloway Droitwich, for the T.C.

January 10.—**COTTAGES. Chippenham.**—For erection of a block of four and a pair of cottages for the T.C. Conditions, specifications, quantities, and form of tender may be obtained from Mr. A. E. Adams, Borough Surveyor, Chippenham, Wilts., on payment of £1 ls. Sealed tenders to Town Clerk, Chippenham, Wilts.

January 10.—**COTTAGES. Congleton.**—Tenders for erection of 15 cottages on the Bromley Lane site. The cottages to be erected under this tender are in six blocks of two and one of three, and the tenders may be for one or more blocks up to that total. Plans, specifications, and conditions of contract can be seen and a copy of the bills of quantities obtained from Mr. J. H. Walters, Borough Surveyor, Town Hall, Congleton, on deposit of £3.

January 10.—**SANATORIUM. Salford.**—For erection of a sanatorium at Nab Top, Marple for the Salford Corporation. Form of tender, general conditions, specification, and bill of quantities may be obtained on application to the Architect, Mr. J. Cubbon, F.R.I.B.A., 42, John Dalton Street, Manchester, upon depositing the sum of £2 2s. The plans may be inspected and further particulars obtained from the Architect. Sealed tenders, endorsed "Sanatorium," and addressed to the Chairman of the Health Committee, to Mr. L. C. Evans, Town Clerk, Salford.

January 12.—**HOUSES. Conway.**—For erection and completion of houses in connection with housing schemes. Separate tenders may be submitted for whole of houses under each scheme, or part of each scheme for not less than 10 houses. Plans, drawings, and specifications may be seen, and bills of quantities, form of tender, and conditions of contract obtained at the Office of Mr. J. A. Jones, Architect, Roby House Chambers, Llandudno, on payment of £2 2s.

January 14.—**HOUSES. Brighton.**—For erection in brick of 479 houses for the Corporation. The estate has been divided into four sections, and contractors may tender for one or more sections, or for one or more pairs of houses on any section. Specifications, bills of quantities and forms of tender will be ready by December 31, and after that date may be obtained at the Office of the Borough Surveyor, Town Hall, Brighton, on payment of a deposit of 10s. 6d. for each section. Drawings and all information at the Office of the Borough Surveyor, Town Hall, Brighton.

January 14.—**HOUSES. Ashby-de-la-Zouch.**—For erection of 60 houses for the Ashby-de-la-Zouch U.D.C. Drawings, specifications, and conditions of contract may be seen at the offices of the Architects Messrs. Baines and Provis, A.R.I.B.A., and M.S.A., 16, Friar Lane, Leicester. Copies of bills of quantities may be obtained from the Architects on deposit of £2 2s. Tenders to Mr. P. Musson, Market Street, Ashby-de-la-Zouch, Leicestershire.

January 14.—**HOTEL. London, E.C.**—Tenders for extensive works of alteration, sanitary, heating, lighting (electric), culinary installations, lifts (electric), works of decoration, etc., of the Manchester Hotel, Aldersgate Street, London, E.C., for Messrs. R. E. Jones, Ltd.

January 15.—**HOUSES. Lambeth.**—The Council of the Metropolitan Borough of Lambeth invites applications from builders and contractors who are prepared to tender for the erection of some or all of 139 dwellings. Drawings and specifications, etc., may be seen at the Office of the Architect, Mr. W. E. Watson, F.R.I.B.A., 37, Norfolk Street, Strand, W.C. Bills of quantities and forms of tender will be supplied on receipt of a deposit of £3 3s. Tenders to Bruce Penny, Town Clerk, Lambeth Town Hall, Brixton Hill, S.W.

January 15.—**HOUSES. Whitefield.**—Tenders for construction of 16 houses. Plans, conditions of contract may be seen, and bills of quantities, forms of tender obtained on application to the Council's Architect, Mr. Gorge M. Denton, Council Offices, Whitefield, upon payment of £2 2s.

January 16.—**HOME. Darlington.**—Tenders for the erection of Church of England Waifs and Strays Home in Cleveland Road, Darlington. The plans can be inspected and bills of quantities can be obtained at the offices of the Architects. A deposit of two guineas will be required for the quantities. Tenders to the Architects, Joseph Potts and son, 12, Eldon Square, Newcastle-on-Tyne.

No Date.—**HOUSES. Ashby-de-la-Zouch.**—The Council invite tenders for the erection of 60 houses on Smissy Road site; construction of roads and laying sewers. The drawings, specifications, and conditions of contract may be seen at the offices of the Architects, Messrs. Baines and Provis, A.R.I.B.A. and M.S.A., 16, Friar Lane, Leicester. Copies of the bills of quantities may be obtained from the architects upon deposit of £2 2s.

No Date.—**RE-BUILDING. Stoke-on-Trent.**—Tender for pulling down old biscuit oven and re-building same; all materials found. Particulars on application to W. T. Copeland and Sons, Stoke-on-Trent.

No Date.—**EXTENSION. Leeds.**—Tenders for the extension of the school medical clinic, Edgar Street, Leeds. Contractors are requested to apply for schedule of quantities to the Architect's Section, Education Offices, Calverley Street, Leeds.

No Date.—**WAREHOUSE. Spalding.**—Contractors desirous of tendering for new warehouses and alterations to business premises at Spalding (erection to commence about middle of January) should apply to S. Phillips Dales, M.S.A., Consulting Architect, 63, High Holborn, London, W.C.

No Date.—**CINEMA. Sheffield.**—Contractors wishing to tender for the erection of a large cinema and cafe in Sheffield, or for the heating and ventilating and reinforced concrete work, are requested to send their names to Gibbs, Flockton, and Teather, Architects and Surveyors, 15, St. James's Row, Sheffield.

No Date.—**HOUSE. Oxford.**—Tenders for the erection at house in Kennington Lane. Plans and specifications may be seen and quantities obtained at the Office of the Architect, Mr. J. G. T. West, The Knowl, Abingdon.

No Date.—**RE-ERECTION. Armadale, Scotland.**—Tenders for taking down of Y.M.C.A. hut at Turnhouse and re-erection at Armadale. Particulars from Mr. T. Roberts, Architect, Bathgate.

No Date.—**CLUB PREMISES. Westcliff-on-Sea.**—Tenders for erection of club premises for Service men and ex-Service members of H.M. Forces. Specifications, plans, conditions, and form of tender can be obtained from Mr. C. R. Beckett, Surveyor, 100, Ronald Park Avenue, Westcliff-on-Sea, upon deposit of £1 ls.

No Date.—**DWELLINGS. Wantage.**—Builders and contractors willing to tender for erection of workmen's dwellings in the parishes of Brightwalton, Compton, Fawley, Farnborough and Peasmore, send names and addresses to Messrs. C. S. Smith and Son, Architects, 164, Friar Street, Reading.

No Date.—**EXTENSIONS. Chester.**—For extensions to Cottage Hospital, Tarporley, Cheshire. Quantities from Mr. A. Priest, Architect, Godstall Chambers, Chester.

No Date.—**BRICKWORK. Whittlesey.**—Tenders for the brickwork and plastering for six cottages at Whittlesey, for the London Brick Company, Ltd., Old Fletton. Drawings can be had on application.

No Date.—**COTTAGES. Sudbury, Suffolk.**—Builders desiring to tender for the erection of cottages should at once apply to the Clerk, J. O. Steed, Esq., 6, Gainsborough Street, Sudbury, Suffolk.

No Date.—**CONVERSION. Bradford.**—Tenders for conversion of 832, Leeds Road, Bradford, into club premises. John Jackson, Architect, Sundridge Road, Bradford.

No Date.—**RE-ERECTION. Norwich.**—Tenders to pull down, cart, and re-erect wood and corrugated iron buildings, 100 ft. by 40 ft. Particulars of W. Vincent and Sons, Upper King Street, Norwich.

No Date.—**SCHOOL. Hyde.**—Tenders for the erection of an additional classroom of timber, etc., at Flowery Field Council School. Plans may be seen and copies of specification obtained at the Education Office, Hyde.

No Date.—**EXTENSIONS. Mirfield.**—Tenders for extensions and alterations to club premises in Towngate, Mirfield, for the Towngate Working Men's Club.

No Date.—**HOUSES. Cannock.**—Tenders for the construction of brick foundations and other work in connection with the erection of 60 huts at Huntington and Great Wyrley. Plans, specifications, quantities, and form of tender on application to Mr. H. M. Whitehead, Director of Housing, Penkridge.

No Date.—**HOUSES. Bucklow.**—The Council invite early offers for sale of houses erected, in course of erection, or about to be erected by contractors and others within their district for housing of the working classes and also invite builders and contractors to submit plans and state fully the terms and conditions on which they would be prepared to build workmen's dwellings within the district for the Council. Any further information may be obtained from the Council's Surveyor (Mr. J. McD. McKenzie), 26, Station Buildings, Altrincham.

No Date.—**ADDITIONS. Goole.**—Tenders for additions and alterations to the Conservative Club, Goole. Plans may be seen and quantities obtained at office of Mr. F. Turner, Architect, Carlisle Street, Goole.

No Date.—**HOUSES. Dunfermline.**—Contractors desirous of tendering for the erection of an instalment of 185 houses are requested to send their names and addresses to R. Muir Morton, City Chambers, Dunfermline.

ELECTRICAL.

December 24.—**ELECTRIC PLANT. Manchester.**—The Electricity Committee of the Manchester Corporation are prepared to receive tenders for the supply, delivery, and erection at their Barton Power Station, Trafford Park, Manchester, of two 25,000 kw. and two 1,000 k.w. 3-phase turbo-alternators with condensing plants, etc. Further particulars and information can be obtained on application to Mr. S. L. Pearce, Chief Engineer and Manager, Dickinson Street, Manchester. Tenders, addressed to the Chairman of the Electricity Committee, must be delivered at the Town Hall.

December 29.—**SWITCHGEAR. Manchester.**—For the supply, delivery, and erection of three-phase 5,600 volt sub-station switchgear, at any sub-station in the area of supply, for the Electricity Committee. Specification, drawing and form of tender may be had on application to Mr. F. E. Hughes, Secretary, Electricity Department, Town Hall, Manchester.

December 30.—**PUMPS. Glasgow.**—Tenders for electrically-driven de-watering pumps for Graving Docks, Govan, Glasgow, for Clyde Navigation Trustees. Drawings and specifications may be seen at Office of Messrs. Walter Bridges and Company, Consulting Engineers, 3, Salters' Hall Court, London, E.C.4, and at Office of Mr. T. R. Mackenzie, General Manager and Secretary, 16, Robertson Street, Glasgow, and copies thereof, together with form of tender, will be furnished on deposit of £2 2s.

January 2.—**CABLE. Sheffield.**—For supply and laying of six core extra high tension split conductor cable, for Electric Supply Committee. Contractors desiring to submit tenders may see drawings and obtain specification, bill of quantities, form of tender and general conditions of contract at the Offices, Commercial Street, Sheffield, on payment of £1 2s.

January 12.—**PLANT. Barnes.**—For supplying water-tube boilers, economisers, draught plant, turbo-alternators, condensers, air and circulating pumps, transformers, rotary converters, for the Barnes U.D.C. Specifications and forms of tender may be had on payment of a deposit of £1. Tenders to Mr. C. S. Davidson, M.I.M.E., M.I.E.E., Engineer, Electricity Works, High Street, Mortlake.

January 28.—**CABLES, ETC. Islington.**—For following contracts for one year from April 1, 1920, for the Islington B.C.: Cables, electricity supply meters, terminal, service, net work, and fuse boxes, iron castings, tapes, compounds, etc. Forms of tender, specification and contract may be obtained on application at the Town Hall. Tenders to Mr. C. G. E. Fletcher, Town Clerk, Town Hall, Islington, N.1.

ENGINEERING.

December 24.—**ELECTRIC PLANT. Manchester.**—The Electricity Committee of the Manchester Corporation are prepared to receive tenders for the supply, delivery, and erection at their Barton Power Station, Trafford Park, Manchester, of two 25,000 kw. and two 1,000 k.w. 3-phase turbo-alternators with condensing plants, etc. Further particulars and information can be obtained on application to Mr. S. L. Pearce, Chief Engineer and Manager, Dickinson Street, Manchester. Tenders, addressed to the Chairman of the Electricity Committee, must be delivered at the Town Hall.

January 29.—**FUEL ECONOMISER. Scarborough.**—The Guardians of the Scarborough Union invite tenders for the erection of a fuel economiser at their Power Station, the Workhouse, Scarborough. Firms desirous of tendering are requested to apply for particulars to J. W. Read, Clerk to the Guardians, 14, Dean Road, Scarborough.

IRON AND STEEL.

No Date.—**SCRAP IRON. Manchester.**—Directors of Manchester Ship Canal invite tenders for purchase of old scrap-iron. Specification forms may be obtained from the Superintendent, Bridgewater Department, Chester Road, Manchester.

No Date.—**TRAMWAY POLES. Salford.**—For supply of steel tramway poles, for the Salford Corporation. Apply to the General Manager, 32, Blackfriars Street, Salford.

PAINTING.

December 24.—**DECORATION. Blackpool.**—Tenders for redecorating the Baptist Tabernacle, Blackpool. Specifications can be had on applying to F. J. Parsonage, 23, Redcar Road, N.S., Blackpool.

(Contracts continued on page xxii.)



Just Like Day-light.

The quality of light produced by the OSRAM (ATMOS TYPE) lamp closely resembles daylight and is rich in actinic rays.

The lamp, which is of the gas-filled half-watt type, embodies the very latest discoveries in the art of lamp-making, and is now made in comparatively low candle-power values, suitable for Factories, Shops, Offices, Public Buildings, Banks, Board Rooms, etc., and in all situations where adequate lighting correctly distributed and diffused is necessary.

For equal consumption of electricity compared with the vacuum type lamp the OSRAM (ATMOS TYPE) gives approximately double the candle power; or, vice versa, for equal candle power it consumes approximately half the amount of electricity.

The Illuminating Engineering Dept. of the G.E.C. will be pleased to collaborate with you in the scientific application of these lamps to any particular requirements.

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Osram
G.E.C.
Lamps
Atmos type

December 26.—**ASYLUM. Derby.**—The Committee of the Derby County Asylum are prepared to receive tenders for the painting of two wards. Specifications of the above may be obtained from Mr. E. McWilliams, Resident Engineer of the Asylum. Tenders to N. J. Hughes-Hallett, Esq., County Offices, St. Mary's Gate, Derby.

December 31.—**PAVILION. Dundee.**—Tenders for painter work to be executed at Baxter Park Tennis Court Pavilion. Specification and form of tender to be had at Parks Office, 93, Commercial Street, Dundee.

SANITARY ENGINEERING.

December 24.—**SEWERS. Oldham.**—The Oldham Housing Committee is prepared to receive tenders for the sewerage and road-formation of various streets at the Hollins site. Plans and specifications can be obtained at the Borough Surveyor's Office. Sealed orders to the Chairman of the Oldham Housing Committee, Town Hall, Oldham.

December 27.—**SEWERS. Chesterfield.**—The Corporation invite tenders for construction of new streets and sewers in connection with the Boythorpe Housing Scheme. Plans and sections may be seen and a copy of the specification and bills of quantities obtained at the Office of the Borough Engineer and Surveyor, 2, Gluman Gate, Chesterfield.

December 30.—**SEWERS. Birmingham.**—For the construction of lengths of sewers on and adjoining the Pineapple Farm Estate, Lifford, and at Witton Road and Manor Road, Witton, together with overflow chamber, manholes, and other incidental works, for the Public Works and Town Planning Committee. Plans and specifications may be seen, and copies of bills of quantities obtained at the Office of Mr. H. P. Humphries, City Engineer and Surveyor, Council House, Birmingham, on payment of a deposit of £2.

January 5.—**WATER MAINS. Weston-super-Mare.**—For laying only of approximately 9,900 lineal yards of 16-in. cast-iron water main and appurtenant works, for the U.D.C. Drawings may be inspected, and specification, form of tender and bill of quantities obtained on deposit of £5 5s., at office of Mr. H. A. Brown, Engineer and Surveyor, Engineer and Surveyor's Office, Town Hall, Weston-super-Mare.

January 7.—**SEWERS. Llandaff.**—Tenders for Construction of about 330 lineal yards of 9-in. and 18-in. earthenware and cast-iron pipe sewers, with manholes, etc., at Allensbank Road, Gabafta, Llandaff, in accordance with plans and specifications which may be seen at Offices of the Engineer and Surveyor, Mr. James Holden, A.M.Inst.C.E., Park House, 20, Park Place, Cardiff. Bill of quantities and form of tender on deposit of £1.

January 19.—**SEWERS. Manchester.**—Tenders for the construction of sewers. Plans may be seen, and specifications, bills of quantities, and forms of tender obtained on application at the City Engineer's office, Town Hall, Manchester, on payment to the City Treasurer of the sum of £2 2s.

MISCELLANEOUS.

January 10.—**STORES. Manchester.**—Tenders for the supply to the Crumpsall Institution, Crescent Road, Manchester, of timber, painting materials, including white lead, zinc white, boiled and raw linseed oil, turpentine, driers, colouring pigments, etc. Quantities and particulars may in each case be had on application to Mr. Hargreaves, Superintendent of Works, Union Offices, All Saints', Manchester.

COMPETITION NEWS.

December 31.—Wood Green War Memorial.

The Executive Committee of the War Memorial Committee invite designs for a memorial to be erected in Stuart Crescent Gardens, High Road, Wood Green. Total inclusive cost £1,000. Full particulars may be obtained from Mr. William P. Harding, Hon. Secretary to the Committee, Town Hall, Wood Green.

January 17.—Southport: New Secondary School.

Designs are invited for a new secondary school in Southport to accommodate 492 boys. Mr. Maurice E. Webb, F.R.I.B.A., has been appointed assessor. A premium of 300 guineas will be awarded to the successful competitor, who will be appointed to carry out the work. Should the work

not be commenced within twelve months of the date of publication of the award, the successful architect will receive a sum equal to 1¼ per cent. of estimated cost, but not exceeding 1,000 guineas. This sum to form part of his ultimate commission if subsequently instructed to carry out the design. Premiums of 200 and 100 guineas will be given for designs placed second and third respectively. The site, which was illustrated in the "Architects' Journal," of November 19, covers eleven and a quarter acres. It is hoped that the building can be obtained for, approximately, £90,000. A special feature of the school will be its organisation into six "groups" or "houses" of boys of mixed ages, after the manner of a public school, and this will call for accommodation where each "house" can assemble under its own master. The printed instructions contain suggestions as to the necessary modifications of planning under this system, but competitors are free to submit their own schemes. The schedule of accommodation includes the following: Assembly hall to seat five hundred, twenty classrooms, science department comprising eleven rooms and two stores in addition to the foregoing; art department (three rooms), handicraft department (three rooms and store), staff and administrative offices (five rooms and suitable lavatory accommodation for staff of twenty-five), store rooms for all departments in addition to those above-mentioned; service rooms with hot and cold water on each floor; dining hall for 200 pupils with kitchen and service arrangements; library of about 1,000 sq. ft., three music rooms, gymnasium for thirty pupils, cloak rooms, etc., three common rooms, swimming bath, approx. 50 ft. by 27 ft. (water size), with dressing rooms, etc., rifle range, and caretaker's cottage separate from main building. The drawings required are block plan, sixteenth scale plans of each floor, elevations and sections, perspective, and half-inch detail of one bay of main front. The brief description of the buildings should give particulars of the materials, the method proposed for heating and ventilation, a schedule of accommodation, and an estimate of cost at present prices. A separate estimate for furniture and fittings not included in the general estimate is to be given. Designs to be received by the Town Clerk, Town Hall, Southport, not later than January 17, 1920.

Bridgwater.

The Competitions Committee of the Royal Institute of British Architects requests members and Licentiates to refrain from taking part in the above competition, the conditions not being in conformity with the Institute Regulations for Architectural Competitions. The committee is in communication with the promoters of the competition with a view to the amendment of the conditions.

Bridlington Memorial.

The design submitted by Mr. Ernest G. Theakston, F.R.I.B.A., 12, New Court, Lincoln's Inn, and Wendover, and Mr. S. Nicholson Babb, R.B.S., sculptor, The Studio, St. Dunstan's Road, Baron's Court, London, has been placed first by the assessor, Mr. J. Bilson, F.R.I.B.A. The committee have approved and awarded the £100 first premium. The second premium has been awarded to Mr. R. Evans, Kennington Oval, London, S.E.

NEWS ITEMS.

(Continued from page 791.)

Appeal for a Wren Church.

Sir Aston Webb, P.R.A., is strongly supporting the appeal for funds to preserve the church of St. Mary Abchurch, off Cannon Street. There is a danger of the whole roof collapsing, and about £5,000 is required to put the building in thorough repair.

Houses Past and Present.

"Houses Past and Present" was the subject of a lecture given at the Norwich Castle Museum under the auspices of the Norfolk and Norwich Archaeological Society, by Mr. A. R. Powys, A.R.I.B.A., who is the secretary of the Society for the Protection of Ancient Buildings.

London Housing.

At the last meeting of the L.C.C. it was stated that during the next five years the Council would probably have to raise thirty million pounds for housing. The Ministry of Health has approved the layout of the Roehampton estate, which provides for the erection of 1,194 houses.

Porthcawl and Concrete Houses.

Porthcawl has commenced extensive building operations with a system of concrete house construction, as approved by the Ministry of Health. The latest authority to follow suit is the Abersychan Urban District Council, which has just accepted a tender for 248 houses at £213,735.

Two Churches Needed.

The necessity for erecting two churches is confronting Hanging Eaton. The Parish Church was destroyed by fire a few years ago, and has yet to be rebuilt. There is also an ever-growing need for a larger church at Soothill to replace the temporary mission hall, and funds are being raised for a larger and permanent structure.

Somerset Memorial Proposal.

At a meeting at Taunton to consider the position of the borough and the county war memorial schemes, it was stated that the proposed county memorial of a monument on the Mendip Hills has had to be abandoned because of inadequate response. Only a few thousand pounds have been subscribed, and the County Committee is open to receive alternative proposals.

War Memorial Plaques.

The War Office, which has in hand the issue of a memorial plaque and scroll to the next-of-kin of those who lost their lives through the war, announce that 198,222 scrolls have now been distributed. The special factory set up for the manufacture of the memorial plaques is now fully equipped, and their distribution has been commenced. Designed by Mr. E. Carter Preston, of Liverpool, the plaque is in classical style, in low relief upon a copper disc, approximately 5 in. in diameter. Britannia is represented helmeted and with trident, holding out a wreath above a raised panel, in which is placed the name of the person commemorated. By her side is a lion, also of classical type, striding forward in a menacing attitude. In the field are two dolphins (as on the well-known classical coins of Syracuse), emblematic of Britain's sea-power. Around is the inscription, "He died for freedom and honour," and a sprig of oak. In the exergue is a group in smaller scale, a lion having overthrown an eagle. Plaques and scrolls are being distributed as they become ready.

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Appointments Vacant.

Six lines or under, 4s. 6d.; each additional line, 6d.

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UNITY IS POWER.

ARCHITECT required to carrying out reinforced concrete and steel commercial building, in the East. Engagement for a period of three years, with possible extension, free passage and quarters. Candidates with wide experience in the construction and erection of commercial buildings generally, and particularly construction in reinforced concrete, should apply at once by letter stating age and salary required and giving full details of training and experience to L. Box 251, Sell's Advertising Offices, Fleet Street, E.C.4. 985

ARCHITECTURAL DRAUGHTSMEN required in London Office.—Two vacancies at salary of £6 to £7 per week, five vacancies at salary ranging from £3 to £5 per week; none but thoroughly good men need apply.—Write, stating age, experience, etc., to Box 519, Willings, 125, Strand, London, W.C.2. 978

ARCHITECTURAL ASSISTANT required in Westminster Office.—Must be fully qualified and a first-class draughtsman; state age, experience, and salary required, giving references; preference will be given to ex-Service men.—Reply, Box 520, Willings, 125, Strand, London, W.C.2. 979

ARCHITECTURAL DRAUGHTSMAN required in London.—Write, stating age, experience, and salary required, to Box 250, Sell's Advertising Offices, Fleet-street, E.C.4. 984

COUNTY BOROUGH OF STOCKPORT.

HOUSING SCHEME.

APPOINTMENT OF ARCHITECT AND QUANTITY SURVEYOR.

The Council invite applications for the above appointment in connection with their Housing Scheme. Candidates must be experienced in the work involved, including the laying out of sites and designing of houses, the preparation of quantities and the superintendence and direction of works during construction.

The successful candidate will be required to devote the whole of his time to the duties of the appointment.

Salary £450 per annum (inclusive of War Bonus). Canvassing, either directly or indirectly, will be a disqualification.

Applications, stating age, qualifications, experience and date when at liberty, accompanied by copies of not more than three recent testimonials, to be delivered to me not later than Thursday, January 8, 1920.

Town Hall, Stockport.
December 17, 1919.

ROBERT HYDE.
Town Clerk. 989

MARSH, JONES AND CRIBB, LTD., 48, Boar Lane, Leeds, Yorks, have vacancy in their studio for Designer; experienced PERIOD DECORATION and FURNITURE DESIGNING. All applications treated in confidence.—Apply, letter only, stating age, salary desired, and when available. 986

JUNIOR ASSISTANT wanted in Architects' and Surveyor's Office.—Must be accurate and neat draughtsman, capable of measuring and plotting plans of existing buildings.—Write, stating age, salary required, and enclose small sample tracing to "A. Z." Box 527, Willings, 125, Strand, W.C.2. 987

WANTED IMMEDIATELY.—CLERK OF WORKS FOR CHINA; starting salary about £200 p.a.; 2nd class passage allowed; 3 years' agreement.—Write, stating full experience, age, and when disengaged, to Box 44, c.o. Dawson's, 121, Cannon Street, London, E.C.4. 982

Contracts.

CONTRACTORS. approved by the Ministry of Health for building houses, desire to enter into an immediate contract with a firm for the manufacture of their Patent Concrete Blocks and Slabs. First order 40,000, at rate of 200 per day. If necessary, proportion of capital required for the necessary machines would be provided. Particulars by letter, first instance, to Messrs. Edell and Co., 4, King Street, Cheapside, London, E.C.2 (Solicitors). In sealed envelopes marked "Concrete Contract." 988

Tenders.

Six lines or under, 6s.; each additional line, 6d.

METROPOLITAN BOROUGH OF WOOLWICH.

Estimates for the Erection of Houses for the Working Classes at Eltham.

Contractors desirous of tendering for the first portion of this work, consisting of 77 houses, are requested to send in their names to the Architects, Messrs. J. S. Gibson and Maxwell Ayrton, 5, Old Bond Street, London, W.1.

Bills of Quantities will be sent to the Contractors approved by the Council on or about January 12, 1920.

Dated this 20th day of December, 1919.

ARTHUR B. BRYCESON.
Town Clerk. 990

Town Hall,
Woolwich, S.E.18.

TO BUILDERS AND CONTRACTORS.

Tenders are invited for extensive works of alteration, sanitary, heating, electric lighting, and culinary installations. Electrical passenger and service lifts. Works of decoration and sundry other works necessary for the complete remodelling of the Manchester Hotel, Aldersgate Street, London, for Messrs. R. E. Jones, Limited. Complete bills of quantities may be obtained (upon a deposit of five pounds, which will be returned on receipt of a bonafide tender) and all particulars and plans inspected, on and after the 20th instant, at the offices of the Architect, Sir Charles T. Ruthen, F.R.I.B.A., 33, Farnival Street, Holborn Bars, E.C.4.

Tenders to be sent, addressed to the Architect, and endorsed "Manchester Hotel Tender" on or before the 14th proximo.

The lowest or any tender will not necessarily be accepted.

December 9, 1919. 962

TO BUILDERS AND CONTRACTORS.

EASINGTON RURAL DISTRICT COUNCIL.

HOUSING SCHEMES.

The above Council require the names of Builders and Contractors desirous of tendering for the whole of the works in connection with housing Schemes at WINGATE and THORNLEY, CO. DURHAM, the first two of nine schemes to be undertaken by the Council.

Each scheme includes Roadmaking, Construction of Sewers, laying of Water and Electric Lighting Mains, Fencing, Landscape Gardening, Footpaths, etc., and the erection of semi-detached houses of six different types, as follows:—

WINGATE 120 houses.
THORNLEY 50 "

Contractors desirous of tendering for one or both of the schemes are to send in their names on or before Wednesday, December 24, 1919, to the Architect, J. Wilson Hays A.R.I.B.A., Wingate, Co. Durham, at whose offices the Plans, Specifications, etc., may be seen during business hours on or after 16th December, 1919.

Bills of Quantities are now in course of preparation.

J. M. LONGDEN.
Clerk to the Council.
Easington, Co. Durham. 969

8th December, 1919.

G.  R.

TO BUILDERS.

The Commissioners of His Majesty's Works, etc., are prepared to receive Tenders before 11 a.m. on Friday, January 9, 1920, addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1. for the Extension of the Telephone Exchange at Tottenham, N.

Drawings, Specification and a copy of the Conditions and Form of Contract may be seen on application at H.M. Office of Works (as above).

Bills of Quantities and Forms of Tender may be obtained from the Director of Contracts at the above-mentioned address on payment of One Guinea. The sums so paid will be returned to those persons who send in tenders in conformity with the conditions specified above. 981

G.  R.

TO BUILDERS.

The Commissioners of His Majesty's Works, etc., are prepared to receive Tenders before 11 a.m. on Friday, January 9, 1920, addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1. for the ERECTION OF A NEW HEAD POST OFFICE at HENLEY-ON-THAMES.

Drawings, Specification, and a copy of the Conditions and Form of Contract may be seen on application at Henley-on-Thames Post Office or at H.M. Office of Works (as above).

Bills of Quantities and Forms of Tender may be obtained from the Director of Contracts, H.M. Office of Works, at the above-mentioned address, on payment of One Guinea. The sums so paid will be returned to those persons who send in tenders in conformity with the conditions specified above. 980

Miscellaneous.

Six lines or under, 4s. 6d.; each additional line, 6d.

BOOKS.—Books on Building Trades, Engineering, Educational, Literary, Technical, and all other subjects; second-hand at half prices; new books at discount prices; catalogues free; state wants; books sent on approval; books bought; best prices given.—W. and O. Foyle, 121-123, Charing Cross Road, London, W.C.

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A Preliminary Examination for the admission of Students and a Final Examination for those intending to apply for Associateship or Membership will be held in April, 1920.

A syllabus of the Examinations and a form of application for permission to sit may be obtained from the Honorary Secretary, 28, Victoria Street, Westminster, S.W.1.

These forms must be submitted for approval by the Council on or before January 30 next. 983

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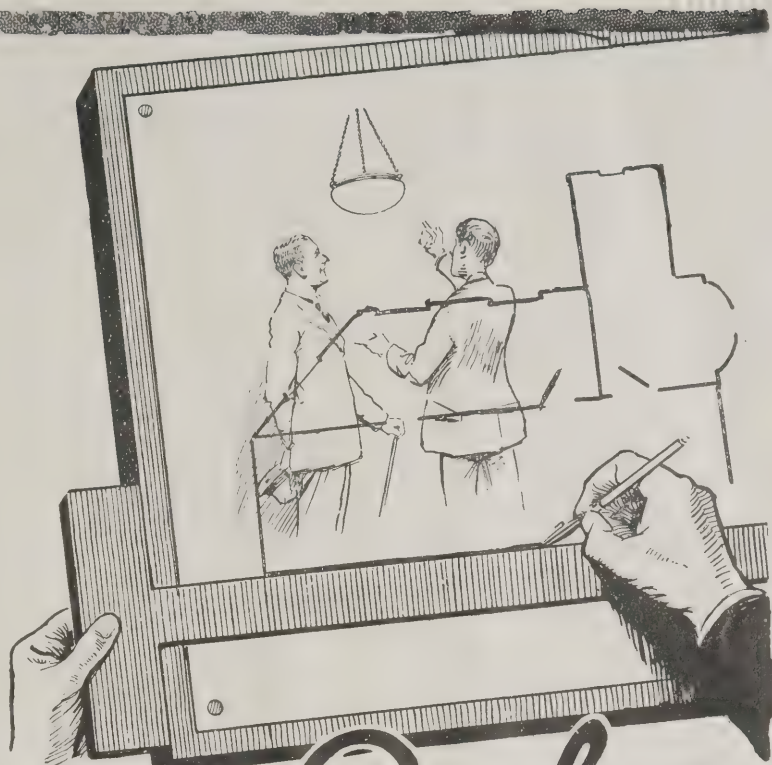
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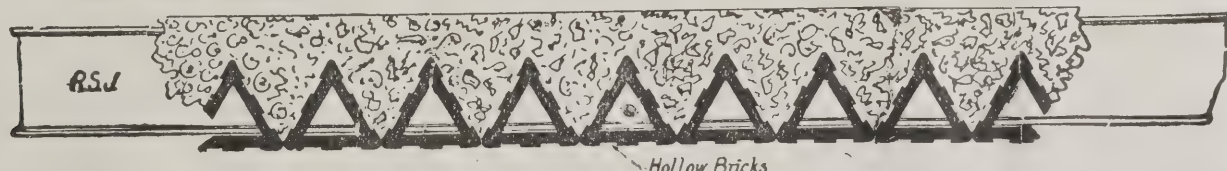


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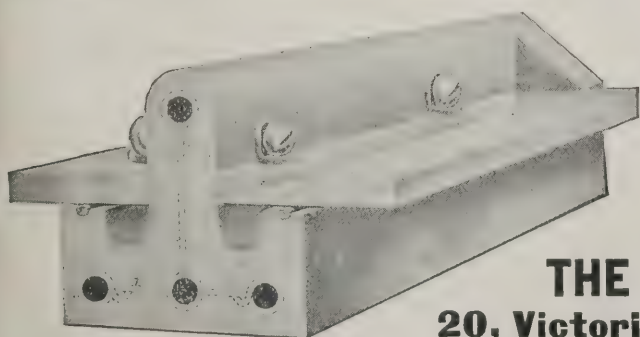
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	PAGE		PAGE		PAGE
A1 Engraving Co., Ltd.	xxviii	Edison Swan Electric Co.	—	Measures Bros. (1911), Ltd.	xxviii
Adams, Robert	xi	Electrical Development Association	—	Mellowes & Co., Ltd.	xxviii
Aircraft Manufacturing Co., Ltd.	xvi	Electric Lamp Manufacturers' Association of Great Britain, Ltd.	xxv	Messenger & Co., Ltd.	xlii
Anderson, D., & Sons, Ltd.	—	Elliot, S., & Sons, Reading, Ltd.	—	Mills, English, & Co., Ltd.	xliii
Argus Printing Co., Ltd.	xix	Expanded Metal Co., Ltd.	—	Modern Homes Construction Co., Ltd.	xxv
Art Metal Construction Co., Ltd.	x	Falkirk Iron Co., Ltd.	—	Morley, E., & Sons	—
Art Reproduction Co., Ltd.	xxvii	Farrow & Jackson, Ltd.	x	National Galvanisers, Ltd.	—
Associated Portland Cement Manufacturers, Ltd.	xxvi	Fawcett Construction Co., Ltd.	xxx	Newalls Insulations Co., Ltd.	—
Associated Wool Mills and Hair Manufacturers, Ltd.	xxvii	Ferro-Stone Glazing Co., Ltd.	xxv	Oldacres & Co.	—
Bell's United Asbestos Co., Ltd.	xxvii	General Electric Co., Ltd.	xxi	Oliver, Wm., & Son, Ltd.	—
Benham & Sons, Ltd.	—	Gibbons, James	xxiii	Parker, Winder & Achurch, Ltd.	—
Berger, Lewis & Sons, Ltd.	—	Gibson, Arthur L.	xxvi	Parnall & Sons	—
Blakeley, E. F., & Co., Ltd.	—	Hall, B. J., & Co., Ltd.	xi	Peters, C. A., Ltd.	—
Bottomley, J. C., & Emerson, Ltd.	xxvii	Hall, John, & Sons, Ltd.	xii	Phoenix Assurance Co., Ltd.	—
Brentford Construction Co., Ltd.	—	Haywards, Ltd.	—	Pocock Bros.	—
Briggs, W., & Sons, Ltd.	xi	Higgs & Hill, Ltd.	—	Ransome-verMehr Machinery Co., Ltd.	—
British Commercial Gas Association	xxvi	Holst, K., & Co.	—	Ravenhead Sanitary Pipe and Brick Co., Ltd.	—
British Dolomite Co., Ltd.	—	Homan & Rodgers (London)	xxv	Receivador Co.	—
British Fibrocement Works	—	Homan & Rodgers (Manchester)	—	Redpath, Brown, & Co., Ltd.	xiv
British Portland Cement Manufacturers, Ltd.	—	Hope, Henry, & Sons, Ltd.	xvi	Rogers, Welch & Co., Ltd.	—
British Reinforced Concrete Engineering Co., Ltd.	vii, x, xxvii	Hy-Rib (Trussed Concrete Steel Co., Ltd.)	—	Rowse & Co.	—
British Thomson-Houston Co., Ltd.	—	Improved Twisted Steel Bar Co.	—	Ruberoid Co., Ltd.	—
British Uracite Co. (1908), Ltd.	—	Ironite Co., Ltd.	xix	Sankey, J. H., & Son, Ltd.	—
British Vacuum Cleaner Co., Ltd.	x	Jackson, G., & Sons, Ltd.	xxiii	Shell Marketing Co., Ltd.	—
Bryden, John, & Sons	xxvi	Jenkins, Robert, & Co., Ltd.	viii	Sieglwart Fireproof Floor Co., Ltd.	—
Building Products, Ltd.	—	Johnson's Reinforced Concrete Engineering Co., Ltd.	v	Simplex Concrete Piles, Ltd.	—
Burn Bros.	—	Jones, W., & Sons	—	Simplex Conduits, Ltd.	—
Burroughs, E. C.	xxvii	Kerner-Greenwood & Co., Ltd.	—	Somerville, D. G., & Co., Ltd.	xvi
Callender, G. M., & Co., Ltd.	iii	King, J. A., & Co.	vi	Steam Cleaning Corporation	—
Carron Company	—	Kinnell, C. P., & Co., Ltd.	—	Stephens, H. C.	xii
Caxton Publishing Co., Ltd.	—	Kleine Patent Flooring Syndicate	—	Stone Preservation Co., Ltd.	xxvi
Charles & Read, Ltd.	ii	Langlier Photos	xxvi	Tann, John	—
Christiani & Nielsen	—	Leeds Fireclay Co., Ltd.	—	Technical Journals	ii, vi, viii, ix, xxix
Cliffords, Ltd.	xii	Library Press, Ltd.	—	Trussed Concrete Steel Co., Ltd.	—
Coatstone Decoration Co.	—	Lind, Peter, & Co.	xv	Tullis, D. & J., Ltd.	—
Cope and Timmins, Ltd.	—	London Structural Co.	—	Vickers, Ltd.	xxx
Crittall Metal Windows	—	MacAndrew & Forbes, Ltd.	x	"Venus"	—
Cuirass Products, Ltd.	—	Macleay, Wm., Sons, & Co.	xvii	Vulcanite, Ltd.	—
Davies Bros. (Walthamstow), Ltd.	—	Martyn, H. H., & Co., Ltd.	—	Waygood Otis, Ltd.	xii
Dawmay, Archibald D., & Sons	iv	Mather & Platt, Ltd.	—	Whatman Drawing Papers	xvii
Dent and Hellyer, Ltd.	—	McNeil, F., & Co., Ltd.	—	Wilcox, W. H., & Co., Ltd.	—
Dixon's White, Ltd.	—			Willesden Paper & Canvas Works, Ltd.	—
Drew-Bear, Perks & Co.	—			Winget, Ltd.	—
Dunkerley, C. C., & Co.	—			Woulham Cement Co., Ltd.	xxvi
Durato Asbestos Flooring Co.	xi				
Economic Building Corporation, Ltd.	—				

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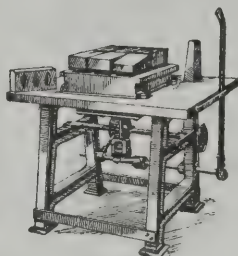
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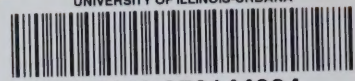
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Indexed

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